Oracle® Fusion Cloud EPM

REST API for Oracle Enterprise Performance Management Cloud

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1

Creating and Running an EPM Center of Excellence

A best practice for EPM is to create a CoE (Center of Excellence).

An **EPM CoE** is a unified effort to ensure adoption and best practices. It drives transformation in business processes related to performance management and the use of technology-enabled solutions.

Cloud adoption can empower your organization to improve business agility and promote innovative solutions. An EPM CoE oversees your cloud initiative, and it can help protect and maintain your investment and promote effective use.

The EPM CoE team:

- Ensures cloud adoption, helping your organization get the most out of your Cloud EPM investment
- Serves as a steering committee for best practices
- Leads EPM-related change management initiatives and drives transformation

All customers can benefit from an EPM CoE, including customers who have already implemented EPM.

How Do I Get Started?

Click to get best practices, guidance, and strategies for your own EPM CoE: Introduction to EPM Center of Excellence.

Learn More

- Watch the Cloud Customer Connect webinar: Creating and Running a Center of Excellence (CoE) for Cloud EPM
- Watch the videos: Overview: EPM Center of Excellence and Creating a Center of Excellence.
- See the business benefits and value proposition of an EPM CoE in *Creating and Running an EPM Center of Excellence*.

2

Implementation Best Practices for EPM Cloud REST APIs

Use the implementation best practices listed in this topic when working with the EPM Cloud REST APIs.

Best practices:

- Before using the REST APIs, complete the prerequisites.
- Use the correct authentication, as described in OAuth 2 and Basic Authentication for EPM Cloud REST APIs.
- Understand the URL structure.
- Know how to get the current REST API version.
- Review the sample scenarios to get started quickly.
- Be aware of REST API compatibility.
- Use the Quick Reference to find all of the Oracle Enterprise Performance Management Cloud REST APIs at a glance.

Troubleshooting

For help with troubleshooting REST API issues, see Diagnosing REST API Issues in *Oracle Enterprise Performance Management Cloud Operations Guide*.

3

About the REST APIs for EPM Cloud

Review these topics to learn about the REST APIs for Oracle Enterprise Performance Management Cloud and understand important prerequisites and authentication.

Overview of the REST APIs:

- About REST API for Oracle Enterprise Performance Management Cloud
- Implementation Best Practices for EPM Cloud REST APIs
- EPM Cloud REST API Compatibility
- About the Samples
- Audience
- Prerequisites
- OAuth 2 and Basic Authentication for EPM Cloud REST APIs

About *REST API for Oracle Enterprise Performance Management Cloud*

This guide describes REST APIs for Oracle Enterprise Performance Management Cloud.

These REST APIs allow service administrators and infrastructure consultants to perform administration tasks in EPM Cloud. This guide assumes that the audience has technical and functional expertise in using and working with REST APIs. See Audience.

EPM Cloud includes these cloud services:

- Planning
- FreeForm
- Planning Modules
- Account Reconciliation
- Financial Consolidation and Close
- Enterprise Profitability and Cost Management
- Profitability and Cost Management
- Tax Reporting
- Narrative Reporting
- Oracle Enterprise Data Management Cloud

You can integrate EPM Cloud environments using:

- A set of REST APIs
- The EPM Automate Utility, a command line tool that is implemented on top of the REST APIs

- Groovy business rules, as described in Oracle Enterprise Performance Management Cloud Groovy Rules Java API Reference.

EPM Cloud REST API Compatibility

These tables summarize the compatibility for Oracle Enterprise Performance Management Cloud REST APIs.

- EPM Platform
- Planning, FreeForm, Strategic Workforce Planning, and Sales Planning
- Migration
- Security
- Daily Maintenance Window Time
- Managing Users
- Usage Simulation
- Reporting
- Data Integration
- Data Management
- Account Reconciliation
- Financial Consolidation and Close
- Task Manager
- Supplemental Data Manager
- Enterprise Journals
- Tax Reporting
- Enterprise Profitability and Cost Management
- Profitability and Cost Management

NOTE: These abbreviations are used in the column headings: **PLN** (Planning), **FF** (FreeForm), **SWP** (Strategic Workforce Planning), **SP** (Sales Planning), **FCC** (Financial Consolidation and Close), **AR** (Account Reconciliation), **EPCM** (Enterprise Profitability and Cost Management), **PCM** (Profitability and Cost Management), and **TR** (Tax Reporting)

For detailed information about REST APIs, see Quick Reference Table – REST API Resource View.

EPM Platform

Table 3-1 EPM Platform

EPM Platform Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Execute a Report Bursting Definition	✓	✓		✓		✓
Update a Connection	✓	✓		✓		✓

Table 3-1 (Cont.) EPM Platform

EPM Platform Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
View a Connection	✓	✓		✓		✓
View all Connections	✓	✓		✓		✓

Planning, FreeForm, Strategic Workforce Planning, and Sales Planning

Table 3-2 Planning, FreeForm, Strategic Workforce Planning, and Sales Planning

Planning, FreeForm, Strategic Workforce Planning, and Sales Planning Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Getting API Versions for Planning	✓	✓		✓		✓
Get Information about a Specific REST API Version for Planning	✓	✓		✓		✓
Get Job Definitions	✓	✓		✓		✓
Execute a Job	✓	✓		✓		✓
Retrieve Job Status	✓	✓		✓		✓
Retrieve Job Status Details	✓	✓		✓		✓
Retrieve Child Job Status Details	✓	✓		✓		✓
Add Member	✓	✓		✓		✓
Get Member	✓	✓		✓		✓
Get Applications	✓	✓		✓		✓
List All Planning Units	✓	✓				
Get Planning Unit History and Annotations	✓	✓				
Get a Planning Unit Owner Photo	✓	✓				
Get Planning Unit Promotional Path	✓	✓				
Get Available Planning Unit Actions	✓	✓				
Get Filters with All Possible Values	✓	✓		✓		
Change Planning Unit Status	✓	✓				
Get User Preferences	✓	✓		✓		✓
Import Data Slice	✓	✓		✓		✓
Export Data Slice	✓	✓		✓		✓
Clear Data Slice	✓	✓		✓		✓
Get All Substitution Variables Defined for the Application	✓	✓		✓		✓
Get a Substitution Variable Defined for the Application	✓	✓		✓		
Create or Update All Substitution Variables Defined for the Application	✓	✓		✓		

Table 3-2 (Cont.) Planning, FreeForm, Strategic Workforce Planning, and Sales Planning

Planning, FreeForm, Strategic Workforce Planning, and Sales Planning Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Get Substitution Variables Defined at the Plan Type Level	✓	✓		✓		
Get Derived Substitution Variables at the Plan Type Level	✓	✓		✓		
Get a Derived Substitution Variable Defined at the Plan Type Level	✓	✓		✓		
Delete a Substitution Variable at the Plan Type Level	✓	✓		✓		
Delete a Substitution Variable for the Application	✓	✓		✓		
Delete Substitution Variables at the Plan Type Level	✓	✓		✓		
Delete Substitution Variables for the Application	✓	✓		✓		

Migration

Table 3-3 Migration

Migration Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Migration Status Codes	✓	✓	✓	✓	✓	✓
Get REST API Versions for Migration	✓	✓	✓	✓	✓	✓
Get Information about a Specific Version of Migration Sample Code	✓	✓	✓	✓	✓	✓
Import and Export Files						
LCM Import (v1)	✓	✓	✓	✓	✓	✓
LCM Import (v2)	✓	✓	✓	✓	✓	✓
LCM Export (v1)	✓	✓	✓	✓	✓	✓
LCM Export (v2)	✓	✓	✓	✓	✓	✓
Upload and Download Files						
Upload	✓	✓	✓	✓	✓	✓
Download	✓	✓	✓	✓	✓	✓
View and Delete Files						
List Files (v11.1.2.3.600)	✓	✓	✓	✓	✓	✓
List Files (v2)	✓	✓	✓	✓	✓	✓
Delete Files (v11.1.2.3.600)	✓	✓	✓	✓	✓	✓
Delete Files (v2)	✓	✓	✓	✓	✓	✓
Delete Files (v3)	✓	✓	✓	✓	✓	✓

Table 3-3 (Cont.) Migration

Migration Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Manage Services						
Get Information About All Services	✓	✓	✓	✓	✓	✓
Get Idle Session Timeout	✓	✓	✓	✓	✓	✓
Set Idle Session Timeout	✓	✓	✓	✓	✓	✓
Restart the Service Instance (v1)	✓	✓	✓	✓	✓	✓
Restart the Service Instance (v2)	✓	✓	✓	✓	✓	✓
Run Recreate on a Service (11.1.2.3.600)	✓	✓	✓	✓	✓	✓
Run Recreate on a Service (v2)	✓	✓	✓	✓	✓	✓
Manage Application Snapshots						
Get Information About All Application Snapshots	✓	✓	✓	✓	✓	✓
Get Information about a Specific Application Snapshot Sample Code	✓	✓	✓	✓	✓	✓
Upload Application Snapshot (v1)	✓	✓	✓	✓	✓	✓
Upload Application Snapshot (v2)	✓	✓	✓	✓	✓	✓
Download Application Snapshot (v1)	✓	✓	✓	✓	✓	✓
Download Application Snapshot (v2)	✓	✓	✓	✓	✓	✓
Copy Application Snapshot (v1)	✓	✓	✓	✓	✓	✓
Copy Application Snapshot (v2)	✓	✓	✓	✓	✓	✓
Rename Application Snapshot (v1)	✓	✓	✓	✓	✓	✓
Rename Application Snapshot (v2)	✓	✓	✓	✓	✓	✓
Copy to and from the Object Store						
Copy to Object Store (v1)	✓	✓	✓	✓	✓	✓
Copy to Object Store (v2)	✓	✓	✓	✓	✓	✓
Copy from Object Store (v1)	✓	✓	✓	✓	✓	✓
Copy from Object Store (v2)	✓	✓	✓	✓	✓	✓
Working with Oracle Essbase						
Export Essbase Data (v2)	✓	✓		✓		✓
Essbase Block Analysis Report	✓	✓				✓
Get Essbase Query Governor Execution Time	✓	✓		✓		✓
Set Essbase Query Governor Execution Time	✓	✓		✓		✓
Other						
Copy a File Between Instances (v1)	✓	✓	✓	✓	✓	✓
Copy a File Between Instances (v2)	✓	✓	✓	✓	✓	✓
Clone an Environment	✓	✓	✓	✓	✓	✓
List Backups - Only for OCI (Gen 2) Environments	✓	✓	✓	✓	✓	✓

Table 3-3 (Cont.) Migration

Migration Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Restore Backup - Only for OCI (Gen 2) Environments	✓	✓	✓	✓	✓	✓
Provide Feedback (v11.1.2.3.600)	✓	✓	✓	✓	✓	✓
Provide Feedback (v2)	✓	✓	✓	✓	✓	✓
Send Email (v1)	✓	✓	✓	✓	✓	✓
Send Email (v2)	✓	✓	✓	✓	✓	✓
Skip Updates (v1)	✓	✓	✓	✓	✓	✓
Skip Updates (v2)	✓	✓	✓	✓	✓	✓

Security

Table 3-4 Security

Security Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Get Restricted Data Access	✓	✓	✓	✓	✓	✓
Set Restricted Data Access	✓	✓	✓	✓	✓	✓
Get Virus Scan on File Upload	✓	✓	✓	✓	✓	✓
Set Virus Scan on File Upload	✓	✓	✓	✓	✓	✓
Manage Permission for Manual Access to Database (v1)	✓	✓	✓	✓	✓	✓
Manage Permission for Manual Access to Database (v2)	✓	✓	✓	✓	✓	✓
Set Encryption Key (v1)	✓	✓	✓	✓	✓	✓
Set Encryption Key (v2)	✓	✓	✓	✓	✓	✓
View the IP Allowlist - Only for OCI (Gen 2) Environments	✓	✓	✓	✓	✓	✓
Update the IP Allowlist - Only for OCI (Gen 2) Environments	✓	✓	✓	✓	✓	✓

Daily Maintenance Window Time

Table 3-5 Daily Maintenance Window Time

Daily Maintenance Window Time Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Get the Build Version and Daily Maintenance Time (v1)	✓	✓	✓	✓	✓	✓

Table 3-5 (Cont.) Daily Maintenance Window Time

Daily Maintenance Window Time Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Get the Build Version and Daily Maintenance Window Time (v2)	✓	✓	✓	✓	✓	✓
Setting the Daily Maintenance Time (v1)	✓	✓	✓	✓	✓	✓
Setting the Daily Maintenance Time (v2)	✓	✓	✓	✓	✓	✓
Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v1)	✓	✓	✓	✓	✓	✓
Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v2)	✓	✓	✓	✓	✓	✓

Managing Users

Table 3-6 Managing Users

Managing Users Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Add Users to an Identity Domain (v1)	✓	✓	✓	✓	✓	✓
Add Users to an Identity Domain (v2)	✓	✓	✓	✓	✓	✓
Remove Users from an Identity Domain (v1)	✓	✓	✓	✓	✓	✓
Remove Users from an Identity Domain (v2)	✓	✓	✓	✓	✓	✓
Assign Users to a Predefined Role or Application Role (v1)	✓	✓	✓	✓	✓	✓
Assign Users to a Predefined Role or Application Role (v2)	✓	✓	✓	✓	✓	✓
Remove Users' Role Assignment (v1)	✓	✓	✓	✓	✓	✓
Remove Users' Role Assignment (v2)	✓	✓	✓	✓	✓	✓
Add Users to a Group (v1)	✓	✓	✓	✓	✓	✓
Add Users to a Group (v2)	✓	✓	✓	✓	✓	✓
Remove Users from a Group (v1)	✓	✓	✓	✓	✓	✓
Remove Users from a Group (v2)	✓	✓	✓	✓	✓	✓
Update Users	✓	✓	✓	✓	✓	✓
Add a User to a Batch of Groups	✓	✓	✓	✓	✓	✓
Remove a User from a Batch of Groups	✓	✓	✓	✓	✓	✓
Add Groups (v1)	✓	✓	✓	✓	✓	✓
Add Groups (v2)	✓	✓	✓	✓	✓	✓
Remove Groups (v1)	✓	✓	✓	✓	✓	✓

Table 3-6 (Cont.) Managing Users

Managing Users Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Remove Groups (v2)	✓	✓	✓	✓	✓	✓
User Group Report (v1)	✓	✓	✓	✓	✓	✓
User Group Report (v2)	✓	✓	✓	✓	✓	✓
User Access Report (v1)	✓	✓	✓	✓	✓	✓
User Access Report (v2)	✓	✓	✓	✓	✓	✓
User Audit Report (v1)	✓	✓	✓	✓	✓	✓
User Audit Report (v2)	✓	✓	✓	✓	✓	✓
Group Assignment Audit Report	✓	✓	✓	✓	✓	✓
Role Assignment Report	✓	✓	✓	✓	✓	✓
Get Available Roles	✓	✓	✓	✓	✓	✓
Adding Users to a Team for Account Reconciliation			✓			
Removing Users from a Team for Account Reconciliation			✓			
Adding Users to a Team for Financial Consolidation and Close and Tax Reporting		✓				✓
Removing Users from a Team for Financial Consolidation and Close and Tax Reporting		✓				✓

Usage Simulation

Table 3-7 Usage Simulation

Data Integration Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Simulate Concurrent Usage	✓	✓				✓

Reporting

Table 3-8 Reporting

Data Integration Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Generate Report for Account Reconciliation			✓			

Table 3-8 (Cont.) Reporting

Data Integration Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Generate Report for Financial Consolidation and Close and Tax Reporting		✓				✓
Generate User Details Report for Account Reconciliation			✓			
Generate User Details Report for Financial Consolidation and Close and Tax Reporting		✓				✓
Retrieve Job Status for a Report		✓	✓			✓
Execute Reports for Data Management	✓	✓	✓	✓	✓	✓

Data Integration

Table 3-9 Data Integration

Data Integration Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Get API Versions for Data Integration APIs	✓	✓	✓	✓	✓	✓
Get Information about a Specific API Version for Data Integration APIs	✓	✓	✓	✓	✓	✓
Running Integrations	✓	✓	✓	✓	✓	✓
Running a Pipeline	✓	✓		✓		✓
Import Data Mapping	✓	✓	✓	✓	✓	✓
Export Data Mapping	✓	✓	✓	✓	✓	✓
Export Data Integration	✓	✓		✓	✓	✓
Import Data Integration	✓	✓		✓	✓	✓
Lock and Unlock POV	✓	✓	✓	✓	✓	✓

Data Management

Table 3-10 Data Management

Data Management Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Get API Versions for Data Management APIs	✓	✓	✓	✓	✓	✓
Get Information about a Specific API Version for Data Management APIs	✓	✓		✓	✓	✓
Running Data Rules in Data Management	✓	✓	✓	✓	✓	✓
Running Batch Rules	✓	✓	✓	✓	✓	✓
Execute Reports for Data Management	✓	✓	✓	✓	✓	✓

Account Reconciliation

Table 3-11 Account Reconciliation

Account Reconciliation Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Get API Versions for Account Reconciliation REST APIs			✓			
Get Information about a Specific API Version for Account Reconciliation REST APIs			✓			
Retrieve Job Status for a Report			✓			
Generate Report for Account Reconciliation			✓			
Generate User Details Report for Account Reconciliation			✓			
Export Application Properties			✓			
Import Application Properties			✓			
Export Background Image			✓			
Import Background Image			✓			
Export Logo Image			✓			
Import Logo Image			✓			
Create a Connection			✓			
View All Connections			✓			
Update a Connection			✓			
Delete a Connection			✓			
Set Application Access Level			✓			

Table 3-11 (Cont.) Account Reconciliation

Account Reconciliation Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Retrieve Application Access Level			✓			
Execute a Job in Account Reconciliation			✓			
Retrieve Periods with a Specific Status			✓			
Create Reconciliation (Reconciliation Compliance)			✓			
Change Period Status (Reconciliation Compliance)			✓			
Import Pre-Mapped Balances (Reconciliation Compliance)			✓			
Import Pre-Mapped Transactions (Reconciliation Compliance)			✓			
Import Balances (Reconciliation Compliance)			✓			
Import Profiles (Reconciliation Compliance)			✓			
Import Rates (Reconciliation Compliance)			✓			
Import Reconciliation Attributes (Reconciliation Compliance)			✓			
Import Attribute Values			✓			
Monitor Reconciliations (Reconciliation Compliance)			✓			
Retrieve Job Status (Reconciliation Compliance)			✓			
View Reconciliation Comments			✓			
Import Pre-Mapped Transactions (Transaction Matching)			✓			
Run Auto Match (Transaction Matching)			✓			
Purge Transactions (Transaction Matching)			✓			
Archive Matched Transactions (Transaction Matching)			✓			
Purge Archived Transactions (Transaction Matching)			✓			
Unmatch Matched Transactions (Transaction Matching)			✓			
Retrieve Job Status (Transaction Matching)			✓			
Update Unmatched Transactions (Transaction Matching)			✓			

Financial Consolidation and Close

Table 3-12 Financial Consolidation and Close

Financial Consolidation and Close Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Getting API Versions for Financial Consolidation and Close APIs		✓				
Get Information about a Specific API Version for Financial Consolidation and Close APIs		✓				
Export Consolidation Journals		✓				
Import Consolidation Journals		✓				
Perform Journal Actions for Financial Consolidation and Close		✓				
Perform Journal Period Updates for Financial Consolidation and Close		✓				
Retrieve Journals for Financial Consolidation and Close		✓				
Retrieve Journal Details for Financial Consolidation and Close		✓				
Copy Data		✓				
Clear Data		✓				
Validate Metadata		✓				
Generate an Intercompany Matching Report		✓				
Generate Report for Financial Consolidation and Close and Tax Reporting		✓				✓
Generate User Details Report for Financial Consolidation and Close and Tax Reporting		✓				✓
Retrieve Job Status for a Report		✓				✓

Task Manager

Table 3-13 Task Manager

Task Manager Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Update Task Status for Event Monitoring		✓				✓
Create a Connection		✓				✓
Delete a Connection		✓				✓
Update a Connection		✓				✓
View All Connections		✓				✓

Table 3-13 (Cont.) Task Manager

Task Manager Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Deploy Task Manager Templates		✓				✓

Supplemental Data Manager

Table 3-14 Supplemental Data Manager

Supplemental Data Manager Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Deploy Form Templates		✓				
Import Supplemental Collection Data for Financial Consolidation and Close		✓				

Enterprise Journals

Table 3-15 Enterprise Journals

Enterprise Journals Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Execute an Enterprise Journals Job		✓				
Monitor Enterprise Journals for Financial Consolidation and Close		✓				
Retrieve Enterprise Journals for Financial Consolidation and Close		✓				
Retrieve Enterprise Journal Content for Financial Consolidation and Close		✓				
Retrieve Enterprise Journal Content by Year and Period for Financial Consolidation and Close		✓				
Update Enterprise Journal Posting Status for Financial Consolidation and Close		✓				
Update Validation Status of Enterprise Journals for Financial Consolidation and Close		✓				

Tax Reporting

Table 3-16 Tax Reporting

Tax Reporting Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Getting API Versions for Tax Reporting APIs						✓
Get Information about a Specific API Version for Tax Reporting						✓
Clear Data						✓
Copy Data						✓
Generate Report for Financial Consolidation and Close and Tax Reporting		✓				✓
Generate User Details Report for Financial Consolidation and Close and Tax Reporting		✓				✓
Retrieve Job Status for a Report		✓				✓

Enterprise Profitability and Cost Management

Table 3-17 Enterprise Profitability and Cost Management

Enterprise Profitability and Cost Management Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Getting API Versions for Enterprise Profitability and Cost Management				✓		
Calculate Model				✓		
Clear Data By Point of View				✓		
Copy Data by Point of View				✓		
Delete Point of View				✓		
Generate Model Documentation Report				✓		
Validate Model				✓		

Profitability and Cost Management

Table 3-18 Profitability and Cost Management

Profitability and Cost Management Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Getting API Versions for Profitability and Cost Management REST APIs					✓	

Table 3-18 (Cont.) Profitability and Cost Management

Profitability and Cost Management Tasks	PLN, FF, SWP, SP	FCC	AR	EPCM	PCM	TR
Apply Data Grants					✓	
Copy ML POV Data					✓	
Create File-Based Application					✓	
Deploy ML Cube					✓	
Enable File-Based Application					✓	
Essbase Data Load for Profitability and Cost Management					✓	
Export Template for Profitability and Cost Management					✓	
Generate Program Documentation Report					✓	
Generate Program Documentation Report - Run as a Job					✓	
Import Template for Profitability and Cost Management					✓	
Merge Slices for Profitability and Cost Management					✓	
Optimize ASO Cube					✓	
Retrieve Task Status for Profitability and Cost Management					✓	
Run ML Calculations					✓	
Run ML Clear POV					✓	
Run ML Rule Balancing					✓	
Update Dimensions As a Job					✓	
Update File-Based Application					✓	

About the Samples

Samples are described for selected integration scenarios and REST API reference sections. A working knowledge of Java, cURL, and Groovy is required to understand these samples.

The Java samples in this guide are coded using pure Java instead of third-party libraries such as Apache HTTP Client. The only JAR files you will need outside of JDK will be for JSON parsing.

This document does not teach REST concepts. As a prerequisite, a prior knowledge of REST programming is required to understand the examples, samples, scenarios, and reference sections.

Audience

This guide is intended primarily as a tool for infrastructure consultants and administrators of EPM Cloud.

Infrastructure consultants can use the documentation to build custom integration to provide basic and innovative services on top of these cloud services, including Planning, Planning Modules, Account Reconciliation, and Profitability and Cost Management.

Service administrators use this documentation to perform selected administrative tasks using REST APIs and EPM Automate. Completing administrative tasks using EPM Automate and REST APIs as an alternative to using the user interface requires considerable technical and functional expertise. Only technically competent administrators should use this guide to perform these administrative tasks.

Prerequisites

Prerequisites to using the REST APIs and the EPM Automate Utility include the following:

- Access as a valid user to the cloud service with prerequisites set up for the service. See Getting Started with Oracle Enterprise Performance Management as an Administrator and Getting Started with Oracle Enterprise Performance Management as a User.
- Technical and functional knowledge to understand and execute the EPM Automate Utility and REST APIs, and to administer the product.
- Knowledge of Java, cURL, Groovy, and REST programming.
- Jobs are required for many EPM Automate utility commands and REST APIs. Jobs are actions, such as importing or exporting data that can be started immediately or scheduled for a later time; for example, importing or exporting data. Be sure that you understand how to use jobs as described in Managing Jobs.
- Data load rules define how Data Management loads data from a file. You must have predefined data load rules to load data using REST APIs and EPM Automate Utility. You can also load data using batches defined in Data Management. Using a batch, Service Administrators can combine many load rules in a batch and execute them in serial or parallel mode.
- Business rules are required for some jobs. For example for Planning, you use Calculation Manager to create business rules, which are then deployed into a Planning application. Learn about business rules in *Designing with Calculation Manager for Oracle Enterprise Performance Management Cloud*

URL Structure

For the URL structure to use, see the topic for the REST API:

- Planning and Budgeting REST API URL
- Migration REST API URL
- Data Management REST API URL

- Account Reconciliation REST API URL
- Enterprise Profitability and Cost Management REST API URL
- Profitability and Cost Management REST API URL

The URL examples shown in this guide use the Classic format.

The Classic URL structure begins with this path:

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/`

where *SERVICE_NAME* is the name of the service, *TENANT_NAME* is the identity domain, *SERVICE_TYPE* is `epm` (for environments created many years ago, it could be `pbcs`), and *dcX* is the data center (for example, us2).

For OCI (Gen 2), URLs are in a slightly different format, with `.ocs.` before `oraclecloud.com`, for example:

`https://<SERVICE_NAME>-<TENANT_NAME>.epm.<dcX>.ocs.oraclecloud.com/`

where *dcX* is the data center region (for example, us-phoenix-1).

Note: Oracle does not authorize or support the use of REST APIs with the path token `"/internal/"` in the URL.

For details on the URL structure, see Differences Between Classic and OCI EPM Cloud Environments. To learn about accessing Oracle Cloud and Oracle Enterprise Performance Management Cloud, see Getting Started with Oracle Cloud and Getting Started with Oracle Enterprise Management Cloud for Administrators.

4

OAuth 2 and Basic Authentication for EPM Cloud REST APIs

All HTTP requests to the REST APIs require authentication. Review these topics to understand OAuth 2 and basic authentication for EPM Cloud REST APIs.

The REST APIs for EPM Cloud support authentication with OAuth 2 and basic authentication:

- Authentication with OAuth 2 - Only for OCI (Gen 2) Environments
- Basic Authentication - for Classic and OCI (Gen 2) Environments

EPM Cloud REST APIs can connect to Oracle Enterprise Performance Management Cloud through API Gateways, such as Google APIGEE, IBM Data Power, and other reverse proxy servers.

For this to work, configure the gateway or reverse proxy by setting the target as the URL of your EPM Cloud environment without any context such as `/epmcloud`. Example: `https://epm-idDomain.epm.dataCenterRegion.oraclecloud.com`. Then, use the reverse proxy URL instead of the EPM Cloud URL in the REST API. For configuration information, see the documentation of your gateway or proxy server.

While configuring the proxy settings, be sure to pass the response code from EPM Cloud to EPM Cloud REST API without modifying it in any manner to allow REST API processing code to correctly process response codes such as 200, 206, 400, 404, 500, 501, and so on. For example, for IBM Datapower, set `proxy HTTP Response` to `ON`. Additionally, the API gateway should allow HTTP methods (GET, POST, PUT, PATCH, and DELETE).

Note that REST APIs cannot be run by users who are set up for basic authentication with multi-factor authentication (MFA).

Authentication with OAuth 2 - Only for OCI (Gen 2) Environments

In EPM Cloud environments on Oracle Cloud Infrastructure (OCI) / Gen 2 architecture, you can use an OAuth 2 access token to issue REST APIs on EPM Cloud to satisfy the requirement of avoiding the use of passwords in your environment.

Setting Up Authentication with OAuth 2

In order to access EPM Cloud REST APIs with OAuth 2, an EPM Cloud Service Administrator has to request the Domain Administrator to set up an OAuth 2 client and provide the Identity Domain Cloud Service (IDCS) URL and Client ID.

Overview of the steps:

- **Step 1**. **Register an OAuth client**. This is a one-time setup step that requires user interaction with IDCS Administrator privileges.

- **Step 2. Obtain and securely store the first refresh token**. This step requires user interaction. It is a one-time step for each user that needs to invoke REST APIs with OAuth 2.
- **Step 3. Obtain an access token from the refresh token**. This step is easily automated. Once automation has been implemented, it can run without user interaction.

The following sections provide detailed information about each step.

Step 1: Register an OAuth Client

Registering an OAuth client is a one-time process. The first step is to update the service provider configuration to authorize requests from the REST client application. As a security measure, any client application that accesses Oracle Cloud resources must be authorized to do so. An IDCS Administrator enables this authorization by registering a client and providing the appropriate registration information to the client's users.

A client application in IDCS is used to obtain an access token. A valid access token (also called a Bearer token) is sufficient authorization to invoke a REST API.

Oracle Enterprise Performance Management Cloud uses a role-based access control mechanism to permit only authorized users access to the service. For details, see About EPM Cloud User and Role Management. This requires that any OAuth 2 access token used to access EPM Cloud REST APIs contains a user context.

A grant type is a standard method to obtain an access token. There are a few different Grant Types as listed here that could be used to obtain an access token. An access token obtained by any of the supported grant types is acceptable as long as the access token is in the context of the user that would be invoking the REST APIs.

In this document, we describe the use of the Device Code Grant Type. EPM Automate has built-in support for the Device Code Grant type.

While the Device Code Grant Type would work in a majority of environments, it might not be right for every implementation. Any of the Grant Types that allow creating an access token with a user context would be suitable for EPM Cloud REST APIs. In addition to the Device Code Grant Type, the following Grant Types support access tokens in the context of an end user:

- Authorization Code Grant Type
- Resource Owner Password Credentials Grant Type
- Assertion Grant Type when access token is in the context of the end user
- Implicit Grant Type

The next section highlights the steps to create a sample OAuth 2 client using the Device Code Grant Type to request an access token. It also demonstrates how to use the access token to invoke EPM Cloud's Get Daily Maintenance Window REST API.

Refer to the Oracle Identity Cloud Service documentation for more details on the Supported Access Grant Types.

The Identity Cloud Service Administrator follows the steps in this topic to create a public client using the Identity Cloud Service Administrator console. The IDCS Administrator then shares the Identity Cloud Service tenant URLand client ID with the EPM Cloud Service Administrator.

If you have an Oracle Identity Cloud Services domain, log in to the Oracle IDCS Administrator console to register an OAuth 2 Client as described in Detailed Information for Using IDCS Administrator Console to Register an OAuth 2 Client.

If your domain is a domain under Oracle Identity and Access Management, follow the instructions in Detailed Information for Using IAM Console to Register an OAuth 2 Client.

Detailed Information for Using IDCS Administrator Console to Register an OAuth 2 Client

1. From the **Applications** drawer, click **Add** at the top of the page.
2. In the **Add Application** dialog box, select **Mobile Application**.
3. In the **App Details** section, enter a name for the REST client.
4. **Optional**: Add other details.
5. Click **Next**.
6. In the **Authorization** section, under **Allowed Grant Types**, unselect the **Implicit** check box and select the **Refresh Token** and **Device Code** check boxes.
7. Under the **Token Issuance Policy** section:
   a. Under **Grant the client access to Identity Cloud Service Admin APIs**, click **Add**.
   b. Select **Identity Domain Administrator**.
   c. Click **Add** to close the pop-up.
8. Click **Next** and then **Finish** to complete creating this OAuth 2 client application.
9. Note the client ID value on the pop-up.
10. Click **Activate** to activate the client, and then click **OK**.

Detailed Information for Using IAM Console to Register an OAuth 2 Client

1. Log in to your account at https://cloud.oracle.com/
2. Click the hamburger menu on the top left and choose **Identity and Security** and then click **Domains** on the dialog box.
3. From the Domains table, choose the appropriate domain (OracleIdentityCloudService by default). This brings you to the Domain Overview page.
4. Note the Domain URL in the **Domain Information** section of the page. This is the tenant-base-URL that will be required to request a token.
5. To create an OAuth 2 client, click **Applications** in the Identity Domain.
6. Click the **Add application** button,
7. Choose **Mobile Application** on the pop-up menu and then click the **Launch Workflow** button.
8. Enter a name and a description to document the use of this OAuth 2 client.
9. Click the **Next** button on the bottom left.
10. On the Client configuration step, in the Authorization section, select **Refresh token** and **Device code** and unselect **Implicit**.
11. In the Token Issuance policy section:
    a. Enable **Add app roles**.

b. Click the **Add roles** button.

c. Choose **Identity Domain Administrator** on the slide-in dialog box.

d. Click the **Add** button to close the slide-in dialog box.

12. Click **Finish** to complete the configuration and **Activate** to activate the application.

13. Note the Client ID value in the General Information section of the OAuth Configuration.

The IDCS Administrator provides the IDCS URL and client ID to the EPM Cloud Service Administrator.

Step 2. Obtain and securely store the first refresh token

After the Domain Administrator has registered the REST client and provided the IDCS URL and client ID, an EPM Cloud user executes the following steps to get a valid refresh token.

1. Issue the following unauthenticated request to the Identity Cloud Service URL:

```
curl --location --request POST 'https://tenant-base-url/oauth2/v1/
device' \
--header 'Content-Type: application/x-www-form-
urlencoded;charset=utf-8' \
--data-urlencode 'response_type=device_code' \
--data-urlencode 'scope=urn:opc:idm:__myscopes__  offline_access' \
--data-urlencode 'client_id=<CLIENT ID OF OAUTH2 APPLICATION>'
```

Here, the value of `tenant-base-url` is the IDCS URL provided by the Domain Administrator or the Domain URL from the IAM console. It is of the form `idcs-<alphanumericvalue>.identity.oraclecloud.com`. Similarly, the value for the `CLIENT ID OF THE OAUTH2 APPLICATION` is also provided by the Domain Administrator or retrieved from the Application's General Information section in IAM. It is an alphanumeric value.

A valid response contains a device code, user code, and verification URI:

```
{
  "expires_in": 300,
  "device_code": "4d03f7bc-f7a5-4795-819a-5748c4801d35",
  "user_code": "SDFGHJKL",
  "verification_uri": "https://tenant-base-url/ui/v1/device"
}
```

The `user_code` from the response is needed in the second step below, while `device_code` from the response is needed in the third step below.

Note: Steps 2 and 3 are time-sensitive because the user code and device code expire 300 seconds (5 minutes) after creation. If the codes expire before these steps can be completed, redo the first step of this section to issue an unauthenticated request to the IDCS URL to receive a new pair of user and device codes.

2. Open the `verification_uri` in a supported web browser.

At this stage, it is important to know that if a user already has an active browser session, the user will not be prompted for re-authentication. If the token is to be generated in context of the currently signed-in user, then proceed with 2b. However, if the token is to be generated in the context of a different user, please sign-out of the current session and navigate to the verification_uri and continue with 2a.

a. When prompted for credentials, authenticate the user who will be invoking the REST API. These credentials could be credentials for a SAML 2.0 compliant Identity Provider or a native IDCS credential.

b. When prompted for a code in the browser session, enter the `user_code` from the response payload.

c. When the Successful message is displayed, it is recommended to log out of the browser session and close the browser window.

3. Within 5 minutes of executing the first step of this section and after executing the second step, issue the following request to the Identity Cloud Service URL:

```
curl --location --request POST 'https://tenant-base-url/oauth2/v1/token' \
--header 'Content-Type: application/x-www-form-urlencoded;charset=utf-8' \
--data-urlencode 'grant_type=urn:ietf:params:oauth:grant-
type:device_code' \
--data-urlencode 'device_code=<DEVICE CODE FROM THE PAYLOAD OF RESPONSE
IN FIRST STEP>' \
--data-urlencode 'client_id=<CLIENT ID OF THE OAUTH2 APPLICATION>'
```

Here the value of `tenant-base-url` is the IDCS URL provided by the Domain Administrator, the `device_code` value is obtained from the response in Step 1, and `client_id` is the same client_id used in the first step of this section.

The response contains the first refresh token:

```
{
    "access_token": "eyJ4NXQjUzI.........evRJChXTRfzn6WlCw",
    "token_type": "Bearer",
    "expires_in": 3600,
    "refresh_token": "AQIDBAWF1.....RVkxNCB7djF9NCA="
}
```

Secure and Protect the Tokens and Client ID

With OAuth 2, tokens are used instead of user credentials to access resources on EPM Cloud. A refresh token and client ID are used to get a new access token and a new refresh token. Thus, to ensure security of EPM Cloud, it is important to securely encrypt and store the `client_id` and any tokens. The REST client must securely store the refresh token and `client_id`.

For EPM Automate, use the encrypt command to create an epw file for OAuth 2.

Step 3: Obtain an Access Token from the Refresh Token

This step is required every time a new access token is required. The REST client uses the latest refresh token and client id to get an access token. It uses the access token as authorization to invoke REST APIs. It also ensures that the latest refresh token and client ID are stored securely.

The REST client uses the Refresh Token Grant type to get a new access token and a new refresh token. As mentioned above, this step can be automated. Once automated, it does not require user interaction.

To obtain a valid access token with this Grant Type, the REST client issues the following request to the IDCS URL:

```
curl --location --request POST 'https://tenant-base-url/oauth2/v1/
token' \
--header 'Content-Type: application/x-www-form-urlencoded' \
--data-urlencode 'grant_type=refresh_token' \
--data-urlencode 'client_id=<DECRYPTED CLIENT ID OF OAUTH2 APPLICATION
FROM SECURE STORE>' \
--data-urlencode 'refresh_token=<DECRYPTED REFRESH TOKEN FROM SECURE
STORE>'
```

Here, the value of `tenant-base-url` is the IDCS URL provided by the Domain Administrator, and the `refresh_token` and `client_id` are obtained from the secure store where there were previously stored.

Note: While the client_id and refresh_token are stored securely, it is important that both refresh_token and client_id are decrypted to use in any request. All requests to Oracle IDCS and EPM Cloud are securely transmitted using the https protocol.

Example response:

```
{
"access_token": "eyJj5M4QjUkI.........abSjZaa86PlseS4lrt7R2",
  "token_type": "Bearer",
  "expires_in": 3600,
  "refresh_token": "AAyyilYBAWD4....FVkxefd8kjoJr6HJPA="
}
```

The REST client saves the new refresh token for future use (see Secure and Protect the Token and Client ID) and uses the access token as authorization while invoking the REST API (see Use the Access Token).

Use the Access Token

In order to invoke an EPM Cloud REST API, the REST client must provide the access token (obtained in the previous step) in the authorization header as follows:

```
Authorization: Bearer <access token>
```

For example, to get the Automated Maintenance Window start time, the client application submits a GET request to this EPM Cloud endpoint `/interop/rest/v1/services/dailymaintenance` using the access token in the authorization header.

```
curl --location --request GET 'https://epm-host/interop/rest/v1/
services/dailymaintenance' \
--header "Authorization: Bearer eyJ5M4QjUkI...abSjZaa86PlseS4lrt7R2"
```

Frequently Asked Questions

OAuth 2 was set up following the documentation before EPM Cloud Release 23.07. Is that configuration still valid?

Yes, the existing configuration will continue to work with existing OAuth 2 support for REST APIs and EPM Automate. However, it is highly recommended to use the updated procedure as it provides greater clarity and might be required for future updates.

How do I change my existing configuration created before EPM Cloud Release 23.07 to be consistent with the current procedure?

The following steps will bring your existing configuration in line with the documented configuration:

1. For the Oracle Cloud Services, on the Configuration tab under **Resources**, unselect the **Is Refresh Token Allowed** checkbox.
2. For the OAuth 2 client application, under Token Issuance Policy, remove the Resource or Resources selected and add the **Identity Administrator Role** to the Client as described in Step 7 for *IDCS Administrator console or Step 11 for IAM console*.
3. Follow the steps described in Step 2. Obtain and securely store the first refresh token to request a new refresh token using the scope `urn:opc:idm:__myscopes__ offline_access`. After getting the refresh token, save it securely.

   For EPM Automate, create a new epw file using the updated instructions in EPM Automate Commands, and then save the new refresh token and client id and use it to authorize access.

Can the expiry time of a refresh token be modified?

The expiry time of the refresh token is configurable in Identity Cloud Service by the Domain Administrator on a per EPM Cloud environment basis. The client requesting the refresh token cannot modify the expiry time or duration. The client should request a new refresh token before the old one expires, in order to not repeat the initial setup again. The default expiry period is 604800 seconds, which is 7 days.

What error is returned when the refresh token has expired?

Executing a refresh token grant flow with an expired refresh token results in a *400 Bad Request* response and the following payload:

```
{  "error": "invalid_grant",
    "error_description": "Token is expired for client : <CLIENT_ID>",
    "ecid": "UsbMB0KCV00000000"
}
```

What error is returned when the refresh token is invalid?

Executing a refresh token grant flow with an invalid refresh token results in a *400 Bad Request* response and the following payload:

```
{  "error": "invalid_grant",
    "error_description": "The given token in the request is invalid",
    "ecid": "UsbMB0KCV00000000"
}
```

What errors are returned for other issues?

A *400 Bad Request* response with the following payloads are returned when there is an error:

Invalid request (for example, not all request parameters are supplied):

```
{
    "error": "invalid_request",
    "error_description":
"The request contains invalid parameters or values"
}
```

Invalid grant (for example, using a token that has already been used) :

```
{
    "error": "invalid_grant",
    "error_description": "The token has already been consumed"
}
```

Invalid scope (for example, providing invalid scope):

```
{
    "error": "invalid_scope",
    "error_description": "Invalid scope"
}
```

What error is returned when an invalid or expired access token is provided?

When an invalid or expired access token is provided in a request, the server responds with a *401 Unauthorized* response with the following HTML in the payload:

```
<html>
<head><title>401 Authorization Required</title></head>
<body>
<center><h1>401 Authorization Required</h1></center>
<hr>
</body>
</html>
```

Can a token be requested with multiple scopes?

Multiple scopes across different resources (EPM Cloud environments) are not supported by Identity Cloud Service. Each token request can support only one resource. Requests for multiple scopes within the same resource are supported with space delimited scopes. Requesting multiple scopes across different resources results in a *400 Bad Request* response with the following payload:

```
{
"error": "invalid_scope",
"error_description": "Invalid scope"
}
```

Can a valid token received for one EPM Cloud environment be used to access all EPM Cloud environments in the same IDCS domain?

The EPM Cloud Service Administrator for an environment provisions each user with predefined and application roles and specific access for that environment. The same user may be provisioned with different privileges on different environments in the same IDCS domain. The functionality that a user is able to perform on any EPM Cloud environment is dependent on the roles and access the user has on that environment. Thus, a valid, unexpired bearer token received for one EPM Cloud environment can be used across all EPM Cloud environments in the same IDCS domain for authentication purposes. However, the authorization of what a particular user can do on a particular EPM Cloud environment is dependent on the roles the user has on that environment.

What information is logged in the access log with OAuth?

The access log shows the user name, just as it does with basic authorization. The client ID and access token are not logged.

When using multiple scripts to run EPM REST APIs, the refresh token grant type seems to fail randomly with a message that the token is already consumed. What is the resolution?

Each refresh token is a single use token. After first use, the same token cannot be reused. Trying to use a particular token after it has already been used results in the message, *The token is already consumed*.

The right way is to set up each script with its own refresh token. To do that, execute the procedure to obtain and save the first refresh token once for each script requiring a refresh token, and then set up each script to use its own refresh token. All scripts can still use the same clientID.

Basic Authentication - for Classic and OCI (Gen 2) Environments

In EPM Cloud environments on Classic or OCI (Gen 2) architecture, the REST APIs support basic authentication (name and password).

If your environment is on Classic Oracle Cloud Infrastructure, use a username in the format `identitydomain.username`.

If your environment is on OCI (Gen 2) Oracle Cloud Infrastructure, you can use basic authentication by supplying a username in the format of `identitydomain.username` or only `username` (without identity domain).

HTTP requests to Oracle Enterprise Performance Management Cloud should supply HTTP Basic Authentication credentials through the **`Authorization`** header.

Finding Your Identity Domain

If your environment is on Classic Oracle Cloud Infrastructure, ensure that you are correctly specifying your identity domain when logging into an environment using REST APIs.

Use one of these methods to identify your identity domain:

- Look in the Activity Report for your environment. The name of the identity domain is displayed at the top left corner of the Activity Report. See "About the Activity Report" in *Getting Started with EPM Cloud for Administrators*.

- Derive the identity domain name from the URL that you use to access the environment. For example, in this fictitious URL, `https://epm-`**`exampleDomain`**`.epm.dataCenter.oraclecloud.com/`, the identity domain name is **exampleDomain**.
  The test and production environments of a subscription usually share the same identity domain. For example, for test environments like as this fictitious URL, `https://epm-test-exampleDomain.epm.dataCenter.oraclecloud.com/`, the identity domain can be derived as the string enclosed between "test-" and the next ".", in this case, **exampleDomain**.

  For production environments like this fictitious URL, `https://epm-exampleDomain.epm.dataCenter.oraclecloud.com/`, the identity domain can be derived as the string enclosed between the first "-" and next ".", in this case, **exampleDomain**.

  Note: In this guide, URLs are shown in the following format: `https://<`*`SERVICE_NAME`*`>-<`*`TENANT_NAME`*`>.<`*`SERVICE_TYPE`*`>.<`*`dcX`*`>.oraclecloud.com/`

When using PowerShell to call EPMCloud REST API, ensure that the Authorization header is always specified. For example:

```
$headers = @{
"Authorization" = "Basic " +
[System.Convert]::ToBase64String([System.Text.Encoding]::UTF8.GetBytes(
$userName+":"+$userPassword))
}
Invoke-RestMethod -Method 'Get' -Uri $url -Headers $headers
```

5

Sample Integration Scenarios

This section provides selected sample scenarios for EPM Cloud REST APIs to help you get started.

Related Topics

- Scenario 1: Import Metadata into Applications
  This scenario shows how to use EPM Cloud REST APIs to import metadata into applications.
- Scenario 2: Import Data, Run a Calculation Script, and Copy Data from a Block Storage Database to an Aggregate Storage Database
  This scenario shows how to use the EPM Cloud REST APIs to import data, run a calculation script, and copy data from a block storage database to an aggregate storage database.
- Scenario 3: Export and Download Metadata and Data
  This scenario shows how to use the EPM Cloud REST APIs to export and download metadata and data.
- Scenario 4: Remove Unnecessary Files from a Service Instance
  This scenario shows how to use the EPM Cloud REST APIs to remove unnecessary files from a service instance.
- Scenario 5: Archive Backups from the Service to Onpremise
  This scenario shows how to use the EPM Cloud REST APIs to archive backups from the service to onpremise.
- Scenario 6: Refreshing the Application
  This scenario shows how to use the EPM Cloud REST APIs to refresh the application.
- Scenario 7: Cloning an Instance
  This scenario shows how to use the EPM Cloud REST APIs to clone an instance.
- Scenario 8: Sample Starter Kit for Consultants - Business Intelligence Cloud Integration
  This scenario provides a sample starter kit for consultants to integrate with Oracle Business Intelligence Cloud.
- Scenario 9: Using Groovy Business Rules to Call REST APIs from Oracle and Other Companies
  The scenario shows how to use the Oracle Enterprise Performance Management Cloud Groovy object model to call Oracle REST APIs and REST APIs developed by other companies.

Scenario 1: Import Metadata into Applications

This scenario shows how to use EPM Cloud REST APIs to import metadata into applications.

Example 5-1 Java

```
public void integrationScenarioImportMetadataIntoApplication() throws
Exception {
    uploadFile("accounts.zip");
```

```
    executeJob("IMPORT_METADATA", "accountMetadata",
"{importZipFileName:accounts.zip}");
    executeJob("CUBE_REFRESH", null, null);
}
```

Common Functions: See Common Helper Functions for Java.

Dependent APIs: see Java Sample – UploadFile.java and Java Sample – ExecuteJob.java in Upload and Download Files.

Example 5-2 cURL

```
funcIntegrationScenarioImportMetadataIntoApplication() {
    funcUploadFile "DemoApplication_HSS_Vision.zip"
    funcExecuteJob "IMPORT_METADATA" "accountMetadata"
"{importZipFileName=accounts.zip}"
    funcExecuteJob "CUBE_REFRESH" "cubeRefresh"
}
```

Example 5-3 Groovy

```
def integrationScenarioImportMetadataIntoApplication() {
    uploadFile("DemoApplication_HSS_Vision.zip")
    executeJob("IMPORT_METADATA", "accountMetadata",
"importZipFileName=accounts.zip");
    executeJob("CUBE_REFRESH", "cubeRefresh", null);
}
```

Common functions: See CSS Common Helper Functions for Groovy

Scenario 2: Import Data, Run a Calculation Script, and Copy Data from a Block Storage Database to an Aggregate Storage Database

This scenario shows how to use the EPM Cloud REST APIs to import data, run a calculation script, and copy data from a block storage database to an aggregate storage database.

Example 5-4 Java

```
public void integrationScenarioImportDataRunCalcCopyToAso() throws
Exception {
    uploadFile("data.csv");
    executeJob("IMPORT_DATA", "loadingq1data",
"{importFileName:data.csv}");
    executeJob("CUBE_REFRESH", null, null);
    executeJob("PLAN_TYPE_MAP", "CampaignToReporting",
"{clearData:false}");
}
```

Common Functions: See Common Helper Functions for Java.

Dependent APIs: see Java Sample – UploadFile.java and Java Sample – ExecuteJob.java in Upload and Download Files.

Example 5-5 cURL

```
funcIntegrationScenarioImportDataRunCalcCopyToAso() {
    funcUploadFile "data.csv"
    funcExecuteJob "IMPORT_DATA" "loadingq1data" "{importFileName=data.csv}"
    funcExecuteJob "CUBE_REFRESH","cubeRefresh"
    funcExecuteJob "PLAN_TYPE_MAP" "CampaignToReporting" "{clearData=false}"
}
```

Example 5-6 Groovy

```
def integrationScenarioImportDataRunCalcCopyToAso() {
    uploadFile("data.csv");
    executeJob("IMPORT_DATA", "loadingq1data", "importFileName=data.csv");
    executeJob("CUBE_REFRESH", "cubeRefresh", null);
    executeJob("PLAN_TYPE_MAP", "CampaignToReporting", "clearData=false");
}
```

Scenario 3: Export and Download Metadata and Data

This scenario shows how to use the EPM Cloud REST APIs to export and download metadata and data.

Example 5-7 Java

```
public void integrationScenarioExportMetadataAndDataAndDownloadFiles()
throws Exception {
    executeJob("EXPORT_METADATA", "exportentitymetadata",
"{exportZipFileName:entitydata.zip}");
    executeJob("EXPORT_DATA", "Forecastdata",
"{exportFileName:forecastdata.zip}");
    listFiles();
    downloadFile("entitydata.zip");
    downloadFile("forecastdata.zip");
}
```

Common Functions: See Common Helper Functions for Java.

Dependent APIs: see Java Sample – DownloadFile.java and Java Sample – ExecuteJob.java in Upload and Download Files.

Example 5-8 cURL

```
funcIntegrationScenarioExportMetadataAndDataAndDownloadFiles() {
    funcExecuteJob "EXPORT_METADATA" "exportentitymetadata"
"{exportZipFileName=entitydata.zip}"
    funcExecuteJob "EXPORT_DATA" "Forecastdata"
"{exportFileName=forecastdata.zip}"
    funcListFiles
    funcDownloadFile "entitydata.zip"
```

```
    funcDownloadFile "forecastdata.zip"
}
```

Example 5-9 Groovy

```
def integrationScenarioExportMetadataAndDataAndDownloadFiles() {
    executeJob("EXPORT_METADATA", "exportentitymetadata",
"exportZipFileName=entitydata.zip");
    executeJob("EXPORT_DATA", "Forecastdata",
"exportFileName=forecastdata.zip");
    listFiles();
    downloadFile("entitydata.zip");
    downloadFile("forecastdata.zip");
}
```

Scenario 4: Remove Unnecessary Files from a Service Instance

This scenario shows how to use the EPM Cloud REST APIs to remove unnecessary files from a service instance.

Example 5-10 Java

```
public void integrationScenarioRemoveUnnecessaryFiles() throws
Exception {
     listFiles();
    deleteFile("entitymetadata.csv");
    deleteFile("forecastdata.csv");
}
```

Common Functions: See Common Helper Functions for Java.

Dependent APIs: See Java Sample — ListFiles.java and Java Sample — DeleteFile.java in View and Delete Files.

Example 5-11 cURL

```
funcIntegrationScenarioRemoveUnnecessaryFiles() {
    funcListFiles
    funcDeleteFile "entitymetadata.csv"
    funcDeleteFile "forecastdata.csv"
}
```

Example 5-12 Groovy

```
def integrationScenarioRemoveUnnecessaryFiles() {
    listFiles();
    deleteFile("entitymetadata.csv");
    deleteFile("forecastdata.csv");
}
```

Scenario 5: Archive Backups from the Service to Onpremise

This scenario shows how to use the EPM Cloud REST APIs to archive backups from the service to onpremise.

Example 5-13 Java

```
public void integrationScenarioExportDataAndDownloadFiles() throws Exception
{
    executeJob("EXPORT_DATA", "entitydata",
"{exportFileName:entitydata.zip}");
    executeJob("EXPORT_DATA", "forecastdata",
"{exportFileName:forecastdata.zip}");
    listFiles();
    downloadFile("entitydata.zip");
    downloadFile("forecastdata.zip");
}
```

Common Functions: See Common Helper Functions for Java.

Dependent APIs: See Java Sample — ExecuteJob.java and Java Sample — DownloadFile.java in Upload and Download Files.

Example 5-14 cURL

```
funcIntegrationScenarioExportDataAndDownloadFiles() {
    funcExecuteJob "EXPORT_DATA" "entitydata"
"{exportFileName:entitydata.zip}"
    funcExecuteJob "EXPORT_DATA" "forecastdata"
"{exportFileName:forecastdata.zip}"
    funcListFiles
    funcDownloadFile "entitydata.zip"
    funcDownloadFile "forecastdata.zip"
}
```

Example 5-15 Groovy

```
def integrationScenarioExportDataAndDownloadFiles() {
    executeJob("EXPORT_DATA", "entitydata", "exportFileName:entitydata.zip");
    executeJob("EXPORT_DATA", "forecastdata",
"exportFileName:forecastdata.zip");
    listFiles();
    downloadFile("entitydata.zip");
    downloadFile("forecastdata.zip");
}
```

Scenario 6: Refreshing the Application

This scenario shows how to use the EPM Cloud REST APIs to refresh the application.

Example 5-16 Java

```
public void integrationScenarioRefreshTheApplication() throws
Exception {
    uploadFile("accounts.zip");
    executeJob("IMPORT_METADATA", "accountMetadata",
"{importZipFileName:accounts.zip}");
    executeJob("CUBE_REFRESH", null, null);
}
```

Common Functions: See Common Helper Functions for Java.

Dependent APIs: See Java Sample — ExecuteJob.java and Java Sample — UploadFile.java in Upload and Download Files.

Example 5-17 cURL

```
funcIntegrationScenarioRefreshTheApplication() {
    funcUploadFile "accounts.zip"
    funcExecuteJob "IMPORT_METADATA" "accountMetadata"
"{importZipFileName:accounts.zip}"
    funcExecuteJob "CUBE_REFRESH" "cubeRefresh"
}
```

Example 5-18 Groovy

```
def integrationScenarioRefreshTheApplication() {
    uploadFile("accounts.zip");
    executeJob("IMPORT_METADATA", "accountMetadata",
"importZipFileName:accounts.zip");
    executeJob("CUBE_REFRESH", "cubeRefresh", null);
}
```

Scenario 7: Cloning an Instance

This scenario shows how to use the EPM Cloud REST APIs to clone an instance.

There are three ways to clone an environment. For this scenario, use one of the following procedures:

- Use Clone Environment user interface
- Use EPM Automate
- Use a REST API

Scenario 8: Sample Starter Kit for Consultants - Business Intelligence Cloud Integration

This scenario provides a sample starter kit for consultants to integrate with Oracle Business Intelligence Cloud.

A sample starter kit can be used by infrastructure consultants to plan integration for Planning with Business Intelligence Cloud.

Prerequisites

- You have accounts for Business Intelligence Cloud , Planning, and Oracle Application Express.
- You have considerable technical and functional expertise with Business Intelligence Cloud, Planning, Oracle Application Express, REST, Groovy, and scripting.

For detailed information, see Sample Starter Kit for Consultants - Integration with Business Intelligence Cloud Service.

Scenario 9: Using Groovy Business Rules to Call REST APIs from Oracle and Other Companies

The scenario shows how to use the Oracle Enterprise Performance Management Cloud Groovy object model to call Oracle REST APIs and REST APIs developed by other companies.

These tutorials show you how to call a Data Management REST API to execute a data load rule and how to call the Google Places REST API from a Groovy script to add or update employee address information in Planning.

To learn how to use Groovy business rules to call Oracle and external REST APIs:

- Calling a REST API from Oracle Using Groovy
- Calling a REST API from Other Companies Using Groovy

To get an introduction to Groovy business rules:

- Learning Groovy in Oracle EPM Cloud video
- Creating a Groovy Business Rule in *Designing with Calculation Manager for Oracle Enterprise Performance Management Cloud*
- Introduction to Groovy Business Rules tutorial
- Additional Groovy Tutorials
- EPM Cloud Groovy Rules Java API Reference

6

Quick Reference Table – REST API Resource View

The REST resources provide powerful APIs that you can use to manage Oracle Enterprise Performance Management Cloud as an alternative to using the web-based user interface.

These tables summarize the REST resource paths.

EPM Platform

Table 6-1 EPM Platform

Rest Resource	Request	More Information
`/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`	**POST**	Execute a Report Bursting Definition
`/HyperionPlanning/rest/epm/{api_version}/applications/{application}/connections/{connectionRef}`	**GET**	Update a Connection

Table 6-1 (Cont.) EPM Platform

Rest Resource	Request	More Information
`/HyperionPlanning/rest/epm/{api_version}/applications/{application}/connections/{connectionRef}`	**GET**	View a Connection
`/HyperionPlanning/rest/epm/{api_version}/applications/{application}/connections`	**GET**	View All Connections

Planning, FreeForm, Strategic Workforce Planning, and Sales Planning

Table 6-2 Planning, FreeForm, Strategic Workforce Planning, and Sales Planning

Rest Resource	Request	More Information
`/HyperionPlanning/rest/`	**GET**	Getting API Versions for Planning
`/HyperionPlanning/rest/{api_version}`	**GET**	Get Information about a Specific REST API Version for Planning
`/HyperionPlanning/rest/{api_version}/applications/{application}/jobdefinitions`	**GET**	Get Job Definitions
`/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`	**POST**	Execute a Job
`/HyperionPlanning/rest/{api_version}/applications/{application}/jobs/{jobIdentifier}`	**GET**	Retrieve Job Status
`/HyperionPlanning/rest/{api_version}/applications/{application}/jobs/{jobIdentifier}/details`	**GET**	Retrieve Job Status Details
`/HyperionPlanning/rest/{api_version}/applications/{application}/jobs/{jobIdentifier}/childjobs/{childJobIdentifier}/details`	**GET**	Retrieve Child Job Status Details
`/HyperionPlanning/rest/{api_version}/applications/{application}/dimensions/{dimname}/members`	**POST**	Add Member
`/HyperionPlanning/rest/{api_version}/applications/{application}/dimensions/{dimname}/members/{member}`	**GET**	Get Member
`/HyperionPlanning/rest/{api_version}/applications`	**GET**	Get Applications
`/HyperionPlanning/rest/{version}/applications/{application}/planningunits?q={"scenario":"scenarioName","version":"versionName"}}&offset=10&limit=10`	**POST**	List All Planning Units

Table 6-2 (Cont.) Planning, FreeForm, Strategic Workforce Planning, and Sales Planning

Rest Resource	Request	More Information
/HyperionPlanning/rest/{api_version}/applications/{application}/planningunits?q={"scenario":{"scenario"},"version":{"version"}}&offset={offset}&limit={limit}	GET	Get Planning Unit History and Annotations
/HyperionPlanning/rest/{api_version}/applications/{application}/users/{userId}/photo	GET	Get a Planning Unit Owner Photo
/HyperionPlanning/rest/{api_version}/applications/{application}/planningunits/{puIdentifier}/promotionpath	GET	Get Planning Unit Promotional Path
/HyperionPlanning/rest/{api_version}/applications/{application}/planningunits{puhIdentifier}/availableactions	POST	Get Available Planning Unit Actions
/HyperionPlanning/rest/{api_version}/applications/{application}/pufilters	GET	Get Filters with All Possible Values
/HyperionPlanning/rest/{api_version}/applications/{application}/planningunits/{puhIdentifier}/actions	POST	Change Planning Unit Status
/HyperionPlanning/rest/{api_version}/applications/{application}/userpreferences	GET	Get User Preferences
/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/importdataslice	POST	Import Data Slice
/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/exportdataslice	POST	Export Data Slice
/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/cleardataslice	POST	Clear Data Slice
/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables	GET	Get All Substitution Variables Defined for the Application
/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables/MyPeriod	GET	Get a Substitution Variable Defined for the Application
/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables	POST	Create or Update All Substitution Variables Defined for the Application
/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables	GET	Get Substitution Variables Defined at the Plan Type Level

Table 6-2 (Cont.) Planning, FreeForm, Strategic Workforce Planning, and Sales Planning

Rest Resource	Request	More Information
`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables?q={"derivedValues":true}`	**GET**	Get Derived Substitution Variables at the Plan Type Level
`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables/CurrYear`	**GET**	Get a Substitution Variable Defined at the Plan Type Level
`HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables/MyPeriod?q={"derivedValues":true}`	**GET**	Get a Derived Substitution Variable Defined at the Plan Type Level
`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables`	**POST**	Create and Update Substitution Variables at the Plan Type Level
`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables/subvarname`	**DELETE**	Delete a Substitution Variable at the Plan Type Level
`/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables/subvarname`	**DELETE**	Delete a Substitution Variable for the Application
`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables:delete`	**POST**	Delete Substitution Variables at the Plan Type Level
`/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables:delete`	**POST**	Delete Substitution Variables for the Application

Migration

Table 6-3 Migration

Rest Resource	Request	More Information
Getting REST API Versions for Migration		
`/interop/rest/`	**GET**	Get REST API Versions for Migration
`/interop/rest/{api_version}`	**GET**	Get Information about a Specific Version of Migration Sample Code
Import and Export Files		
`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration?q={type:"import"}`	**POST**	LCM Import (v1)
`/interop/rest/v2/snapshots/import`	**POST**	LCM Import (v2)

Table 6-3 (Cont.) Migration

Rest Resource	Request	More Information
`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migrationq={type:"export"}`	**POST**	LCM Export (v1)
`/interop/rest/v2/snapshots/export`	**POST**	LCM Export (v2)
Upload and Download Files		
`/interop/rest/11.1.2.3.600/applicationsnapshots/{applicationSnapshotName}/contents`	**POST**	Upload
`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/contents`	**GET**	Download
View and Delete Files		
`/interop/rest/{api_version}/applicationsnapshots`	**GET**	List Files (v11.1.2.3.600)
`/interop/rest/v2/files/list`	**GET**	List Files (v2)
`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}`	**DELETE**	Delete Files (v11.1.2.3.600)
`/interop/rest/v2/files/delete`	**DELETE**	Delete Files (v2)
`/interop/rest/v3/files/delete`	**POST**	Delete Files (v3)
Manage Services		
`/interop/rest/{api_version}/services`	**GET**	Get Information About All Services
`/interop/rest/{api_version}/config/services/idlesessiontimeout`	**GET**	Get Idle Session Timeout
`/interop/rest/{api_version}/config/services/idlesessiontimeout`	**PUT**	Set Idle Session Timeout
`/interop/rest/{api_version}/services/{service_type}/resetservice`	**POST**	Restart the Service Instance (v1)
`/interop/rest/v2/config/services/reset`	**POST**	Restart the Service Instance (v2)
`/interop/rest/{api_version}/services/{servicename}/recreate`	**POST**	Run Recreate on a Service (11.1.2.3.600)
`/interop/rest/v2/config/services/recreate`	**POST**	Run Recreate on a Service (v2)
Manage Application Snapshots		
`/interop/rest/{api_version}/applicationsnapshots`	**GET**	Get Information About All Application Snapshots
`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}`	**GET**	Get Information about a Specific Application Snapshot Sample Code
`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/contents?q={"isLast":false,"isFirst":true,"chunkSize":14,"fileSize":55445}`	**POST**	Upload Application Snapshot (v1)

Table 6-3 (Cont.) Migration

Rest Resource	Request	More Information
`/interop/rest/v2/files/upload`	**POST**	Upload Application Snapshot (v2)
`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/content`	**GET**	Download Application Snapshot (v1)
`/interop/rest/v2/files/download`	**POST**	Download Application Snapshot (v2)
`/interop/rest/v1/services/{servicename}/copysnapshot`	**POST**	Copy Application Snapshot (v1)
`/interop/rest/v2/snapshots/copyfrominstance`	**POST**	Copy Application Snapshot (v2)
`/interop/rest/v1/renamesnapshot`	**PUT**	Rename Application Snapshot (v1)
`/interop/rest/v2/snapshots/rename`	**PUT**	Rename Application Snapshot (v2)
Copy to and from the Object Store		
`/interop/rest/v1/services/copytoobjectstore`	**POST**	Copy to Object Store (v1)
`/interop/rest/v2/objectstorage/copyto`	**POST**	Copy to Object Store (v2)
`/interop/rest/v2/objectstorage/copyfrom`	**POST**	Copy from Object Store (v2)
`/interop/rest/v1/services/copyfile`	**POST**	Copy a File Between Instances (v1)
Working with Oracle Essbase		
`/interop/rest/v2/essbase/export`	**POST**	Export Essbase Data (v2)
`/interop/rest/diag/v1/services/essbaseblockanalysisreport`	**POST**	Essbase Block Analysis Report
`/interop/rest/{api_version}/config/services/essbaseqrygovexectime`	**GET**	Get Essbase Query Governor Execution Time
`/interop/rest/{api_version}/config/services/essbaseqrygovexectime`	**PUT**	Set Essbase Query Governor Execution Time
Other		
`/interop/rest/v1/services/copyfile`	**POST**	Copy a File Between Instances (v1)
`/interop/rest/v2/files/copyfrominstance`	**POST**	Copy a File Between Instances (v2)
`/interop/rest/v1/services/clone`	**POST**	Clone an Environment
`/interop/rest/v2/backups/list`	**GET**	List Backups - Only for OCI (Gen 2) Environments
`/interop/rest/v2/backups/restore`	**POST**	Restore Backup - Only for OCI (Gen 2) Environments
`/interop/rest/{api_version}/feedback`	**POST**	Provide Feedback (v11.1.2.3.600)
`/interop/rest/v2/services/feedback`	**POST**	Provide Feedback (v2)
`/interop/rest/<api_version>/services/sendmail`	**POST**	Send Email (v1)
`/interop/rest/v2/mails/send`	**POST**	Send Email (v2)

Table 6-3 (Cont.) Migration

Rest Resource	Request	More Information
/interop/rest/v1/services/skipupdate	POST	Skip Updates (v1)
/interop/rest/v2/services/skipupdate	POST	Skip Updates (v2)

Security

Table 6-4 Security

Rest Resource	Request	More Information
/interop/rest/{api_version}/config/services/restricteddataaccess	GET	Get Restricted Data Access
/interop/rest/{api_version}/config/services/restricteddataaccess	PUT	Set Restricted Data Access
/interop/rest/{api_version}/config/services/virusscanonfileupload	GET	Get Virus Scan on File Upload
/interop/rest/{api_version}/config/services/virusscanonfileupload	PUT	Set Virus Scan on File Upload
/interop/rest/{api_version}/services/dataaccess?accessType={allow|revoke}&disableEmergencyAccess={true|false}	PUT	Manage Permission for Manual Access to Database (v1)
/interop/rest/v2/services/setmanualdataaccess	PUT	Manage Permission for Manual Access to Database (v2)
/interop/rest/{api_version}/services/encryptionkey	PUT	Set Encryption Key (v1)
/interop/rest/v2/services/setencryptionkey	PUT	Set Encryption Key (v2)
/interop/rest/epmociservice/v2/ipallowlist	GET	View the IP Allowlist - Only for OCI (Gen 2) Environments
/interop/rest/epmociservice/v2/ipallowlist	POST	Update the IP Allowlist - Only for OCI (Gen 2) Environments

Daily Maintenance Window Time

Table 6-5 Daily Maintenance Window Time

Rest Resource	Request	More Information
/interop/rest/{api_version}/services/dailymaintenance	GET	Get the Build Version and Daily Maintenance Time (v1)
/interop/rest/v2/maintenance/getdailymaintenancestarttime	GET	Get the Build Version and Daily Maintenance Window Time (v2)
/interop/rest/{api_version}/services/dailymaintenance?StartTime={N}	PUT	Setting the Daily Maintenance Time (v1)
/interop/rest/v2/maintenance/setdailymaintenancestarttime	PUT	Setting the Daily Maintenance Time (v2)

Table 6-5 (Cont.) Daily Maintenance Window Time

Rest Resource	Request	More Information
/interop/rest/{api_version}/services/maintenancewindow	**POST**	Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v1)
/interop/rest/v2/maintenance/rundailymaintenance	**POST**	Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v2)

Managing Users

Table 6-6 Managing Users

Rest Resource	Request	More Information
/interop/rest/security/<*api_version*>/users	**POST**	Add Users to an Identity Domain (v1)
/interop/rest/security/v2/users/add	**POST**	Add Users to an Identity Domain (v2)
/interop/rest/security/<*api_version*>/users?filename=<*filename*>	**DELETE**	Remove Users from an Identity Domain (v1)
/interop/rest/security/v2/users/remove	**POST**	Remove Users from an Identity Domain (v2)
/interop/rest/security/<*api_version*>/users	**PUT**	Assign Users to a Predefined Role or Application Role (v1)
/interop/rest/security/v2/role/assign/user	**PUT**	Assign Users to a Predefined Role or Application Role (v2)
/interop/rest/security/<*api_version*>/users	**PUT**	Remove Users' Role Assignment (v1)
/interop/rest/security/v2/role/unassign/user	**PUT**	Remove Users' Role Assignment (v2)
/interop/rest/security/<*api_version*>/groups	**PUT**	Add Users to a Group (v1)
/interop/rest/security/v2/groups/adduserstogroup	**PUT**	Add Users to a Group (v2)
/interop/rest/security/<*api_version*>/groups	**PUT**	Remove Users from a Group (v1)
/interop/rest/security/v2/groups/removeusersfromgroup	**PUT**	Remove Users from a Group (v2)
/interop/rest/security/<*api_verion*>/users	**PUT**	Update Users
/interop/rest/security/<*api_version*>/groups	**PUT**	Add a User to a Batch of Groups
/interop/rest/security/<*api_version*>/groups	**PUT**	Remove a User from a Batch of Groups
/interop/rest/security/<*api_version*>/groups	**POST**	Add Groups (v1)

Table 6-6 (Cont.) Managing Users

Rest Resource	Request	More Information
/interop/rest/security/v2/groups/add	**POST**	Add Groups (v2)
/interop/rest/security/<*api_version*>/groups	**DELETE**	Remove Groups (v1)
/interop/rest/security/v2/groups/remove	**POST**	Remove Groups (v2)
/interop/rest/security/<api_version>/usergroupreport	**POST**	User Group Report (v1)
/interop/rest/security/v2/report/usergroupreport	**GET**	User Group Report (v2)
/interop/rest/{api_version}/reports?q={type:provisionreport,fileName:provreport.csv,format:simplified,usertype,serviceusers}	**POST**	User Access Report (v1)
/interop/rest/v2/reports/useraccess	**POST**	User Access Report (v2)
/interop/rest/{api_version}/reports?q={type:userauditreport,fileName:userauditreport.csv,since:2017-12-10,until:2018-06-10}	**POST**	User Audit Report (v1)
/interop/rest/v2/reports/useraudit	**POST**	User Audit Report (v2)
/interop/restp{api_version}/reports/groupaudit	**POST**	Group Assignment Audit Report
/interop/rest/security/{api_version}/roleassignmentreport	**POST**	Role Assignment Report
/interop/rest/security/v2/role/getavailableroles	**GET**	Get Available Roles
/interop/rest/security/{api_version}/roleassignmentauditreport/	**POST**	Role Assignment Audit Report for OCI (Gen 2) Environments
/interop/rest/security/{api_version}/invalidloginreport/	**POST**	Invalid Login Report for OCI (Gen 2) Environments
/armARCS/rest/{version}/jobs	**POST**	Adding Users to a Team for Account Reconciliation
/armARCS/rest/{version}/jobs	**POST**	Removing Users from a Team for Account Reconciliation
/HyperionPlanning/rest/{api_version}/applications/{application}/fcmjobs	**POST**	Adding Users to a Team for Financial Consolidation and Close and Tax Reporting
/HyperionPlanning/rest/{api_version}/applications/{application}/fcmjobs	**POST**	Removing Users from a Team for Financial Consolidation and Close and Tax Reporting

Usage Simulation

Table 6-7 Usage Simulation

Rest Resource	Request	More Information
/interop/rest/v1/concurrentusage/run	**POST**	Simulate Concurrent Usage

Reporting

Table 6-8 Reporting

Rest Resource	Request	More Information
/arm/rest/fcmapi/{*api_version*}/report	**POST**	Generate Report for Account Reconciliation
/HyperionPlanning/rest/fcmapi/{api_version}/report	**POST**	Generate Report for Financial Consolidation and Close and Tax Reporting
/arm/rest/fcmapi/{api_version}/rc/export/users	**POST**	Generate User Details Report for Account Reconciliation
/HyperionPlanning/rest/fcmapi/{api_version}/fcm/export/users	**POST**	Generate User Details Report for Financial Consolidation and Close and Tax Reporting
/arm/rest/fcmapi/{api_version}/job/{module}/{jobIdentifier}	**GET**	Retrieve Job Status for a Report
/aif/rest/{api_version}/jobs	**POST**	Execute Reports for Data Management

Data Management

Table 6-9 Data Management

Rest Resource	Request	More Information
/aif/rest/	**GET**	Get API Versions for Data Management APIs
/aif/rest/{api_version}	**GET**	Get Information about a Specific API Version for Data Management APIs
/aif/rest/V1/snapshots	**POST**	Import Data Integration
/aif/rest/V1/snapshots	**POST**	Export Data Integration
/aif/rest/{api_version}/jobs	**POST**	Running Data Rules in Data Management
/aif/rest/{api_version}/jobs	**POST**	Running Integrations
/aif/rest/{api_version}/jobs		Running a Pipeline
/aif/rest/{api_version}/jobs	**POST**	Running Batch Rules
/aif/rest/{api_version}/jobs	**POST**	Import Data Mapping
/aif/rest/{api_version}/jobs	**POST**	Export Data Mapping

Table 6-9 (Cont.) Data Management

Rest Resource	Request	More Information
/aif/rest/V1/POV	**POST**	Lock and Unlock POV
/aif/rest/{api_version}/jobs	**POST**	Execute Reports for Data Management

Account Reconciliation

Table 6-10 Account Reconciliation

Rest Resource	Request	More Information
/armARCS/rest/	**GET**	Get API Versions for Account Reconciliation REST APIs
/armARCS/rest/<*api_version*>	**GET**	Get Information about a Specific API Version for Account Reconciliation REST APIs
GET /arm/rest/fcmapi/{api_version}/job/{module}/{jobIdentifier}	**GET**	Retrieve Job Status for a Report
/arm/rest/fcmapi/{api_version}/report	**POST**	Generate Report for Account Reconciliation
/arm/rest/fcmapi/{api_version}/rc/export/users	**POST**	Generate User Details Report for Account Reconciliation
/armARCS/rest/{version}/jobs	**POST**	Adding Users to a Team for Account Reconciliation
/armARCS/rest/{version}/jobs	**POST**	Removing Users from a Team for Account Reconciliation
/arm/rest/fcmapi/{api_version}/rc/export/applicationproperties	**POST**	Export Application Properties
/arm/rest/fcmapi/{api_version}/rc/import/applicationproperties	**POST**	Import Application Properties
/arm/rest/fcmapi/{api_version}/rc/export/backgroundImage	**POST**	Export Background Image
/arm/rest/fcmapi/{api_version}/rc/import/backgroundImage	**POST**	Import Background Image
/arm/rest/fcmapi/{api_version}/rc/export/logo	**POST**	Export Logo Image
/arm/rest/fcmapi/{api_version}/rc/import/logo	**POST**	Import Logo Image
/arm/rest/fcmapi/{api_version}/{module}/connections	**POST**	Create a Connection
/arm/rest/fcmapi/{api_version}/{module}/connections	**GET**	View All Connections
/arm/rest/fcmapi/{api_version}/{module}/connections/{id}	**PUT**	Update a Connection
/arm/rest/fcmapi/{api_version}/{module}/connections/{id}	**DELETE**	Delete a Connection
/armARCS/rest/{api_version}/appaccess	**POST**	Set Application Access Level

Table 6-10 (Cont.) Account Reconciliation

Rest Resource	Request	More Information
/armARCS/rest/{api_version}/appaccess	**GET**	Retrieve Application Access Level
/armARCS/rest/{api_version}/jobs	**POST**	Execute a Job in Account Reconciliation
/armARCS/rest/periods?status={status}	**GET**	Retrieve Periods with a Specific Status
/armARCS/rest/{api_version}/jobs	**POST**	Create Reconciliation (Reconciliation Compliance)
/armARCS/rest/{api_version}/jobs	**POST**	Change Period Status (Reconciliation Compliance)
/armARCS/rest/{api_version}/jobs	**POST**	Import Pre-Mapped Transactions (Reconciliation Compliance)
/armARCS/rest/{api_version}/jobs	**POST**	Import Profiles (Reconciliation Compliance)
/armARCS/rest/{api_version}/jobs	**POST**	Import Rates (Reconciliation Compliance)
/armARCS/rest/{api_version}/jobs	**POST**	Import Balances (Reconciliation Compliance)
/armARCS/rest/{api_version}/jobs	**POST**	Import Pre-Mapped Balances (Reconciliation Compliance)
/armARCS/rest/{api_version}/jobs	**POST**	Import Reconciliation Attributes (Reconciliation Compliance)
/armARCS/rest/{api_version}/jobs	**POST**	Import Attribute Values
/armARCS/rest/{api_version}/jobs/{job_id}	**GET**	Retrieve Job Status (Reconciliation Compliance)
/armARCS/rest/{api_version}/period/{period}/reconciliation/{accountId}/comments	**GET**	View Reconciliation Comments
/armARCS/rest/{api_version}/jobs	**POST**	Monitor Reconciliations (Reconciliation Compliance)
/armARCS/rest/{api_version}/jobs	**POST**	Import Pre-Mapped Transactions (Transaction Matching)
/armARCS/rest/{api_version}/jobs	**POST**	Run Auto Match (Transaction Matching)
/arm/rest/{api_version}/jobs	**POST**	Purge Transactions (Transaction Matching)
/arm/rest/{api_version}/jobs/{job_id}	**GET**	Retrieve Job Status (Transaction Matching)
/arm/rest/{api_version}/jobs	**POST**	Archive Matched Transactions (Transaction Matching)
/arm/rest/{api_version}/jobs	**POST**	Purge Archived Transactions (Transaction Matching)
/arm/rest/{api_version}/jobs	**POST**	Unmatch Matched Transactions (Transaction Matching)

Table 6-10 (Cont.) Account Reconciliation

Rest Resource	Request	More Information
/arm/rest/{api_version}/dataSources/{dataSource}/transactions/{transaction}	**POST**	Update Unmatched Transactions (Transaction Matching)

Financial Consolidation and Close

Table 6-11 Financial Consolidation and Close

Rest Resource	Request	More Information
/HyperionPlanning/rest/	**GET**	Getting API Versions for Financial Consolidation and Close APIs
/fccs/rest/{api_version}	**GET**	Get Information about a Specific API Version for Financial Consolidation and Close APIs
/HyperionPlanning/rest/{api_version}/applications/{application}/jobs	**POST**	Export Consolidation Journals
/HyperionPlanning/rest/{api_version}/applications/{application}/jobs	**POST**	Import Consolidation Journals
/HyperionPlanning/rest/{api_version}/applications/{application}/journals/{journal}/actions	**POST**	Perform Journal Actions for Financial Consolidation and Close
/HyperionPlanning/rest/{api_version}/applications/{application}/journalPeriods/{period}/actions	**POST**	Perform Journal Period Updates for Financial Consolidation and Close
/HyperionPlanning/rest/{api_version}/applications/{application}/journals?q={"scenario","year","period","status"}&offset=0&limit=5	**GET**	Retrieve Journals for Financial Consolidation and Close
/HyperionPlanning/rest/{api_version}/applications/{application}/journals/{journal label}?q={"scenario","year","period"}&lineItems=true	**GET**	Retrieve Journal Details for Financial Consolidation and Close
/HyperionPlanning/rest/{api_version}/applications/{application}/jobs	**POST**	Copy Data
/HyperionPlanning/rest/{api_version}/applications/{application}/jobs	**POST**	Clear Data
/HyperionPlanning/rest/{api_version}/applications/{application}/validatemetadata?logFileName=<filename of exported results	**POST**	Validate Metadata
/HyperionPlanning/rest/{api_version}/applications/{application}/jobs	**POST**	Generate an Intercompany Matching Report
/interop/rest/{api_version}/services/dataaccess?accessType={allow|revoke}&disableEmergencyAccess={true|false}	**PUT**	Manage Permission for Manual Access to Database (v1)

Table 6-11 (Cont.) Financial Consolidation and Close

Rest Resource	Request	More Information
`/interop/rest/v2/services/setmanualdataaccess`	**PUT**	Manage Permission for Manual Access to Database (v2)
`/HyperionPlanning/rest/{api_version}/applications/{application}/fcmjobs`	**POST**	Adding Users to a Team for Financial Consolidation and Close and Tax Reporting
`/HyperionPlanning/rest/{api_version}/applications/{application}/fcmjobs`	**POST**	Removing Users from a Team for Financial Consolidation and Close and Tax Reporting
`/HyperionPlanning/rest/fcmapi/{api_version}/report`	**POST**	Generate Report for Financial Consolidation and Close and Tax Reporting
`/HyperionPlanning/rest/fcmapi/{api_version}/fcm/export/users`	**POST**	Generate User Details Report for Financial Consolidation and Close and Tax Reporting

Task Manager

Table 6-12 Task Manager

Rest Resource	Request	More Information
`/HyperionPlanning/rest/cmapi/{api_version}/updateTasksForEventMonitoring`	**POST**	Update Task Status for Event Monitoring
`/HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections`	**POST**	Create a Connection
`/HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections/{id}`	**DELETE**	Delete a Connection
`/HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections/{id}`	**PUT**	Update a Connection
`/HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections`	**GET**	View All Connections
`/HyperionPlanning/rest/cmapi/{api_version}/jobs`	**POST**	Deploy Task Manager Templates

Supplemental Data Manager

Table 6-13 Supplemental Data Manager

Rest Resource	Request	More Information
`/HyperionPlanning/rest/{api_version}/applications/{application}/fcmjobs`	**POST**	Deploy Form Templates
`/HyperionPlanning/rest/{api_version}/applications/{application}/fcmjobs`	**POST**	Import Supplemental Collection Data for Financial Consolidation and Close

Enterprise Journals

Table 6-14 Enterprise Journals

Rest Resource	Request	More Information
`/HyperionPlanning/rest/ej/{api_version}/jobs`	**POST**	Execute an Enterprise Journals Job
`/HyperionPlanning/rest/ej/{api_version}/jobs`	**POST**	Monitor Enterprise Journals for Financial Consolidation and Close
`/HyperionPlanning/rest/ej/v1/ejjournals`	**GET**	Retrieve Enterprise Journals for Financial Consolidation and Close
`/HyperionPlanning/rest/ej/v1/ejjournals/{instanceId}`	**GET**	Retrieve Enterprise Journal Content for Financial Consolidation and Close
`/HyperionPlanning/rest/ej/v1/ejjournalcontent?q={"year","period"}`	**GET**	Retrieve Enterprise Journal Content by Year and Period for Financial Consolidation and Close
`/HyperionPlanning/rest/ej/v1/ejjournals/{instanceId}/poststatus`	**POST**	Update Enterprise Journal Posting Status for Financial Consolidation and Close
`/HyperionPlanning/rest/ej/{api_version}/ejjournals/{identifier}/validationstatus`	**POST**	Update Validation Status of Enterprise Journals for Financial Consolidation and Close

Tax Reporting

Table 6-15 Tax Reporting

Rest Resource	Request	More Information
`/HyperionPlanning/rest/`	**GET**	Getting API Versions for Tax Reporting APIs
`/HyperionPlanning/rest/{api_version}`	**GET**	Get Information about a Specific API Version for Tax Reporting
`/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`	**POST**	Copy Data
`/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`	**POST**	Clear Data

Enterprise Profitability and Cost Management

Table 6-16 Enterprise Profitability and Cost Management

Rest Resource	Request	More Information
`/epm/rest`	**GET**	Getting API Versions for Enterprise Profitability and Cost Management

Table 6-16 (Cont.) Enterprise Profitability and Cost Management

Rest Resource	Request	More Information
/HyperionPlanning/rest/v3/applications/{AppName}/jobs/	**POST**	Calculate Model
/HyperionPlanning/rest/v3/applications/{AppName}/jobs/	**POST**	Clear Data By Point of View
/HyperionPlanning/rest/v3/applications/{AppName}/jobs/	**POST**	Copy Data by Point of View
/HyperionPlanning/rest/v3/applications/{AppName}/jobs/	**POST**	Delete Point of View
/HyperionPlanning/rest/v3/applications/{AppName}/jobs/	**POST**	Generate Model Documentation Report
/HyperionPlanning/rest/v3/applications/{AppName}/jobs/	**POST**	Validate Model

Profitability and Cost Management

Table 6-17 Profitability and Cost Management

Rest Resource	Request	More Information
/epm/rest	**GET**	Getting API Versions for Profitability and Cost Management REST APIs
/epm/rest/{api_version}/applications/{application}/jobs/applyDataGrants	**POST**	Apply Data Grants
/epm/rest/{api_version}/applications/{application}/povs/{srcPOVMemberGroup}/jobs/copyPOVJob/{destPOVMemberGroup}	**POST**	Copy ML POV Data
/epm/rest/{api_version}/fileApplications/{application}	**POST**	Create File-Based Application
/epm/rest/{api_version}/applications/{application}/jobs/ledgerDeployCubeJob	**POST**	Deploy ML Cube
/epm/rest/{api_version}/fileApplications/{application}/enableApplication	**POST**	Enable File-Based Application
/epm/rest/{api_version}/applications/{application}/jobs/essbaseDataLoadJob	**POST**	Essbase Data Load for Profitability and Cost Management
/epm/rest/{api_version}/applications/{application}/jobs/exportQueryResultsJob	**POST**	Export Query Results
/epm/rest/{api_version}/applications/{application}/jobs/templateExportJob?fileName={fileName}	**POST**	Export Template for Profitability and Cost Management
epm/rest/{api_version}/applications/{application}/povs/{POV}/programDocumentationReport?queryParameter={"fileType":"PDF","useAlias":"true"}	**GET**	Generate Program Documentation Report

Table 6-17 (Cont.) Profitability and Cost Management

Rest Resource	Request	More Information
/epm/rest/{api_version}/applications/<applicationName>/povs/<povName>/jobs/programDocReportJob	**POST**	Generate Program Documentation Report - Run as a Job
/epm/rest/{api_version}/applications/{application}/templateImportJob	**POST**	Import Template for Profitability and Cost Management
/epm/rest/{api_version}/applications/{application}/jobs/mergeSlices	**POST**	Merge Slices for Profitability and Cost Management
/epm/rest/v1/applications/{AppName}/jobs/optimizeASOCube	**POST**	Optimize ASO Cube
/epm/rest/{api_version}/applications/jobs/ChecktaskStatusJob/{processName}	**GET**	Retrieve Task Status for Profitability and Cost Management
/epm/rest/{api_version}/applications/{application}/povs/{povGroupMember}/jobs/runLedgerCalculationJob	**POST**	Run ML Calculations
/epm/rest/{api_version}/applications/{application}/povs/{povGroupMember}/jobs/clearPOVJob	**POST**	Run ML Clear POV
/epm/rest/{api_version}/applications/{application}/povs/{povGroupMember}/ruleBalance?queryParameter={"modelViewName":"modelViewName"	**POST**	Run ML Rule Balancing
/epm/rest/{api_version}/fileApplications/{application}/jobs/updateDimension	**POST**	Update Dimensions As a Job
/epm/rest/{api_version}/fileApplications/{application}/updateDimension	**POST**	Update File-Based Application

7

REST Resources and Methods

This section describes the REST APIs for Oracle Enterprise Performance Management Cloud.

Completing administrative tasks using REST APIs as an alternative to using the user interface requires considerable technical and functional expertise. Only technically competent EPM Cloud Administrators should use this guide to perform EPM Cloud Administrator administrative tasks. For prerequisites to using these REST APIs, see Prerequisites.

The predefined and application roles assigned to the user of the REST API determine which APIs can be executed.

Supported REST Methods

You can use the Oracle Enterprise Performance Management Cloud REST APIs to create and manage resources for selected functionality. These APIs provide an alternative to using the selected components in the web-based user interface.

You can use one of a variety of methods to access the REST APIs. For example, you can access the REST API through client applications such as:

- Web browsers
- cURL

You can also use the REST APIs in REST client applications that are developed in languages such as:

- JavaScript
- Ruby
- Perl
- Java
- Groovy

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

REST describes any simple interface that transmits data over a standardized interface (such as HTTP) without an additional messaging layer, such as SOAP. REST provides a set of design rules for creating stateless services that are viewed as resources, or sources of specific information, and can be identified by their unique URIs. RESTful web services are services that are built according to REST principles and, as such, are designed to work well on the web. Typically, RESTful web services are built on the HTTP protocol and implement operations that map to the common HTTP methods, such as GET, POST, PUT, and DELETE to retrieve, create, update, and delete resources, respectively.

REST API Methods

You can create, view, update, or delete Oracle Enterprise Performance Management Cloud resources using standard HTTP method requests, as summarized in the following table.

Table 7-1 REST API Methods

Method	Description
GET	Retrieve information about the REST API resource
POST	Create a REST API resource
PUT	Update a REST API resource
DELETE	Delete a REST API resource or related component

Error Handling

All REST APIs return JSON output appropriate for the API invoked. HTTP Status codes other than 200 are used as appropriate to indicate various failures, along with JSON for detailed error messages.

Versioning

The Oracle Enterprise Performance Management Cloud REST API web services are versioned at the API level and expect the version to be included in the URL as shown here. An error will occur if the API version is missing or the provided version is not supported by the API.

For each service's API, you can get version and details for a specific REST API version. For details, see the service's API topics or Current REST API Version.

Important: The version number is case-sensitive. For example, if the version number is listed as `v1` with a lowercase `v`, you cannot enter the version number with a capital `V` as in this incorrect example, `V1`, which would result in an error. Instead, you must enter the version number with a lowercase `v` as in this correct example: `v1`.

Examples:

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/{api_version}/applications/{applicationName}/jobs
```

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
{api_version}/applicationsnapshots
```

where `{api_version}` is the current REST API version for the product, for example, `v3` for Planning.

Current REST API Version

Use the *Getting API Versions* topic for the Oracle Enterprise Performance Management Cloud business process to get the API version number and details for a specific REST API.

- Planning: See Getting API Versions for Planning
- Migration: See Getting API Versions for Migration APIs
- Data Management: See Getting API Versions for Data Integration APIs
- Account Reconciliation: See Getting API Versions for Account Reconciliation REST APIs
- Financial Consolidation and Close: See Getting API Versions for Financial Consolidation and Close APIs
- Profitability and Cost Management: See Getting API Versions for Profitability and Cost Management REST APIs
- Profitability and Cost Management: See Getting API Versions for Enterprise Profitability and Cost Management

Status Codes

When you call any of the Oracle Enterprise Performance Management Cloud REST APIs, one of the following standard HTTP status codes is returned in the response header.

Table 7-2 Status Codes

HTTP Status Codes	Description
200 OK	The request was successfully completed. A 200 status is returned for a successful GET or POST method.
201 Created	The request has been fulfilled and resulted in a new resource being created. The response includes a Location header containing the canonical URI for the newly created resource. A 201 status is returned from a synchronous resource creation or an asynchronous resource creation that completed before the response was returned.
202 Accepted	The request has been accepted for processing, but the processing has not been completed. The request may or may not eventually be acted upon, as it may be disallowed at the time processing actually takes place. When specifying an asynchronous (_detached=true_resource creation, for example, when deploying an application, or update, for example, when redeploying an application, a 202 is returned if the underlying operation does not complete in a reasonable amount of time. The response contains a Location header of a job resource that the client should poll to determine when the job has finished. It also returns an entity that contains the current state of the job.
400 Bad Request	The request could not be processed because it contains missing or invalid information, such as a validation error on an input field, a missing required value, and so on.
401 Unauthorized	The request is not authorized. The authentication credentials included with this request are missing or invalid.
403 Forbidden	The user cannot be authenticated. The user does not have authorization to perform this request.

Table 7-2 (Cont.) Status Codes

HTTP Status Codes	Description
404 Not Found	The request includes a resource URI that does not exist
405 Method Not Allowed	The HTTP verb specified in the request (DELETE, GET, POST, PUT) is not supported for this request URI.
406 Not Acceptable	The resource identified by this request is not capable of generating a representation corresponding to one of the media types in the Accept header of the request.
415 Not Acceptable	The client's ContentType header is not correct.
500 Internal Server Error	The server encountered an unexpected condition that prevented it from fulfilling the request.
503 Service Unavailable	The server is unable to handle the request due to temporary overloading or maintenance of the server.

8

Planning REST APIs

Use the Planning REST APIs to get the REST API version, manage and execute jobs, and work with members, applications, planning units, user preferences, data slices, and substitution variables.

These REST APIs are available for Planning.

- URL Structure for Planning
- Resources and Available Actions
- Getting API Versions for Planning
- Manage Jobs
- Working with Members
- Get Applications
- Manage Planning Units
- Get User Preferences
- Working with Data Slices
- Getting and Setting Substitution Variables
- Deleting Substitution Variables
- Working with Connections

Before you work with the REST APIs, be sure you are familiar with the Implementation Best Practices for EPM Cloud REST APIs.

Note: We have removed the following fields from the exception response in REST APIs for Planning and Planning Modules:

- message
- localizedMessage

URL Structure for Planning

This topic shows the general URL structure for Planning REST APIs.

Use the following URL structure to access the Planning REST resources:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/{api_version}/{path)
```

Where:

api_version—API version you are developing with. The current REST API version for Planning is v3.

path—Identifies the resource

Resources and Available Actions

In the response, the Links section of the response parameters lists links to other resources and available actions for the current resource.

Table 8-1 Resources and Available Actions

Name	Description
`links`	Describes links to other resources and actions applicable on the current resource
`rel`	Relationship type; the relationship between the current state and the state to which the client will transition
`href`	The target resource's URI. If the value of rel is "self", this URI is how the resource is accessed currently
`action`	The HTTP method. For POST, data indicates the parameters and values with which it was invoked

Getting API Versions for Planning

You can get information on REST API versions using a set of REST resources, as summarized here.

Important: The version number is case-sensitive. For example, if the version number is listed as `v3` with a lowercase `v`, you cannot enter the version number with a capital `V` as in this incorrect example, `V3`, which would result in an error. Instead, you must enter the version number with a lowercase `v` as in this correct example: `v3`.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 8-2 Getting REST API Versions

Task	Request	REST Resource
Get REST API Versions for Planning	GET	`/HyperionPlanning/rest/`
Get Information about a Specific REST API Version for Planning	GET	`/HyperionPlanning/rest/{api_version}`

Get REST API Versions for Planning

You can use REST APIs to get information about which versions are available and supported. Multiple versions might be supported simultaneously.

> **Note:**
>
> An API version is always supported even when deprecated.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

`GET /HyperionPlanning/rest/`

Request

Supported Media Types: `application/json`

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 8-3 Parameters

Name	Description
`items`	Version of the API you are developing with
`version`	The version, such as v3
`lifecycle`	Possible values: active, deprecated
`isLatest`	Whether this resource is the latest, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "items": [{
        "version": "v1",
        "lifecycle": "deprecated",
        "isLatest": false,
        "links": [{
            "rel": "canonical",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v1"
        }, {
            "rel": "successor-version",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v2"
        }]
    }, {
        "version": "v2",
        "lifecycle": "deprecated",
        "isLatest": false,
        "links": [{
            "rel": "canonical",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v2"
        }, {
```

```
            "rel": "predecessor-version",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v1"
        }, {
            "rel": "successor-version",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3"
        }]
    }, {
        "version": "v3",
        "lifecycle": "active",
        "isLatest": true,
        "links": [{
            "rel": "canonical",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3"
        }, {
            "rel": "predecessor-version",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v2"
        }]
    }],
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/"
    }, {
        "rel": "canonical",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/"
    }, {
        "rel": "current",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3"
    }]
}
```

Get Information about a Specific REST API Version for Planning

You can use REST APIs to get information about a specific REST API version for Planning.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

```
GET /HyperionPlanning/rest/{api_version}
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-4 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with, such as V3	Path	Yes	None

Response Body

Supported Media Types: `application/json`

Parameters

The following table summarizes the response parameters.

Table 8-5 Parameters

Attribute	Description
`version`	The version, such as v3
`lifecycle`	Lifecycle of the resource, active or deprecated
`isLatest`	Whether this resource is the latest, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "version": "v3",
    "lifecycle": "active",
    "isLatest": true,
    "links": [{
        "rel": "canonical",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3"
    }, {
        "rel": "predecessor-version",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v2"
    }]
}
```

Manage Jobs

You can manage jobs using a set of REST resources, as summarized here.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs. For additional details, see Job Types.

Jobs:

- Get Job Definitions
- Execute a Job
- Retrieve Job Status
- Retrieve Job Status Details
- Rules
- Ruleset
- Plan Type Map
- Import Data
- Export Data
- Export Metadata
- Import Metadata
- Cube Refresh
- Clear Cube
- Administration Mode
- Compact Cube
- Restructure Cube
- Merge Data Slices
- Optimize Aggregation
- Import Security
- Export Security
- Export Audit
- Export Job Console
- Sort Members
- Import Exchange Rates
- Auto Predict
- Import Cell-Level Security
- Export Cell-Level Security

- Import Valid Intersections
- Export Valid Intersections
- Execute a Report Bursting Definition
- Export Library Documents

Get Job Definitions

Use this resource to get job definitions for the types of jobs that can be scheduled to run.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs. For additional details, see Job Types.

Required Roles

Service Administrator

REST Resource

```
GET       /HyperionPlanning/rest/{api_version}/applications/{application}/
jobdefinitions
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-6 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`jobIdentifier`	The ID of the job, such as 224	Path	Yes	None
`q`	Query string	Query	No	None

Table 8-6 (Cont.) Parameters

Name	Description	Type	Required	Default
jobType	Optionally, retrieve job definitions for a particular job type, such as RULES. These jobs are supported: • Rules • Ruleset • Plan Type Map • Import Data • Export Data • Export Metadata • Import Metadata • Cube Refresh • Clear Cube • Administration Mode • Compact Cube • Restructure Cube • Merge Data Slices • Optimize Aggregation • Import Security • Export Security • Export Audit • Export Job Console • Sort Members • Import Exchange Rates • Auto Predict • Import Cell-Level Security • Export Cell-Level Security • Import Valid Intersections • Export Valid Intersections • Execute a Report Bursting Definition • Export Library Documents			

Example URLs

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobdefinitions
```

Specifying an optional jobType, RULES:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobdefinitions?
q={"jobType":"RULES"}
```

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 8-7 Parameters

Name	Description
`items`	Collection of job definitions
`jobType`	Job type, such as RULESET. These jobs are supported: • Rules • Ruleset • Plan Type Map • Import Data • Export Data • Export Metadata • Import Metadata • Cube Refresh • Clear Cube • Administration Mode • Compact Cube • Restructure Cube • Merge Data Slices • Optimize Aggregation • Import Security • Export Security • Export Audit • Export Job Console • Sort Members • Import Exchange Rates • Auto Predict • Import Cell-Level Security • Export Cell-Level Security • Import Valid Intersections • Export Valid Intersections • Execute a Report Bursting Definition • Export Library Documents
`jobName`	The exact name of the job, such as `Financial Statements - Forecast`.
`type`	Application type

Example of Response Body

The following shows an example of the response body specifying jobType with a value of RULESET.

```
{
    "items": [{
        "jobType": "RULESET",
        "jobName": "Financial Statements - Forecast",
        "links": null
    }, {
        "jobType": "RULESET",
        "jobName": "Financial Statements - Plan",
        "links": null
    }, {
```

```
            "jobType": "RULESET",
            "jobName": "Revenue Forecast",
            "links": null
        }, {
            "jobType": "RULESET",
            "jobName": "Revenue Plan",
            "links": null
        }, {
            "jobType": "RULESET",
            "jobName": "RS 60 RTP vars test2",
            "links": null
        }],
        "links": [{
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/vision/jobdefinitions?q=%7BjobType:RULESET%7D",
            "action": "GET"
        }],
}
```

Execute a Job

Use this resource to execute several jobs simultaneously by providing the job name and type. The job is expected to be defined in Planning with all the required parameters saved with the job definition. For some job types, the parameters can be either provided or overwritten at runtime.

This topic describes general information for executing a job. Details for each job type are described in separate topics for individual jobs.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs. For additional details, see Job Types.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs.

REST Resource

POST `/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`

Request

Supported Media Types: `application/json`

Parameters

This table summarizes the request parameters that are generic to all jobs. The following tables describe parameters specific to individual jobs.

Note that all parameter names and values are case sensitive.

Table 8-8 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application for which the job will be executed	Path	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs
```

```
{"jobType":"jobType","jobName":"jobName","parameters":
{"parameter1":"value","parameter2":"value2"}}
```

Response

Supported Media Types: `application/json`

Parameters

This table summarizes the response parameters that are generic to all jobs. The following topics describe parameters specific to individual jobs:

- Rules
- Ruleset
- Plan Type Map
- Import Data
- Export Data
- Export Metadata
- Import Metadata
- Cube Refresh
- Clear Cube
- Administration Mode
- Compact Cube
- Restructure Cube
- Merge Data Slices
- Optimize Aggregation
- Import Security
- Export Security
- Export Audit
- Export Job Console

- Sort Members
- Import Exchange Rates
- Auto Predict
- Import Cell-Level Security
- Export Cell-Level Security
- Import Valid Intersections
- Export Valid Intersections
- Execute a Report Bursting Definition
- Export Library Documents

Table 8-9 Parameters

Name	Description
`status`	Status of the job: -1 = in progress; 0 = success; 1 = error; 2 = cancel pending; 3 = cancelled; 4 = invalid parameter; Integer.MAX_VALUE = unknown
`details`	Details about the job status, such as "Metadata import was successful" for metadata import
`jobID`	The ID of the job, such as 145
`jobName`	The name of the job, such as Refresh Database.
`descriptiveStatus`	The status of the job, such as Completed or Error

Rules

Launches a business rule.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator, Power User (if Rule Launch access is granted)

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/
{application}/jobs
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For parameters that are common to all jobs, see Execute a Job.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Table 8-10 Rules

Name	Description	Required	Default
`jobType`	`Rules` or `RULES` (both parameters are supported)	Yes	None
`jobName`	The name of a **business rule** exactly as it is defined in the Planning application. **Example**: `RollupUSSales`	Yes	None
`parameters`	Optionally you can specify the runtime prompts and their values required to execute the business rule. Note: The rule is executed against the plan type to which it was deployed. The value must use JSON syntax.	No, unless default values for the run time prompts are not provided in Calculation Manager.	Default values for the runtime prompts as provided in Calculation Manager will be used.

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs
```

```
{
    "jobType":"Rules",
    "jobName":"Operating Expense Adj Plan",
    "parameters":
        {
            "MyScenario1":"Current",
            "MyVersion1":"BU Version_1",
            "ToEntity":"CA",
            "Rule_Level_Var":"AZ",
            "planType":"Plan1"
        }
}
```

Ruleset

Launches a business ruleset.

Supports rulesets with no runtime prompts or runtime prompts with default values. You can add parameters to rulesets for greater flexibility. Use the sample rulesets and POST requests below to help you quickly understand different scenarios when running this job. For details about rulesets, see Designing Business Rulesets.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs. For information about creating rulesets, see *Designing with Calculation Manager for Oracle Enterprise Performance Management Cloud*.

Required Roles

Service Administrator, Power User (if Rule Launch access is granted)

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-11 Ruleset

Name	Description	Required	Default
`jobType`	`Ruleset` or `RULESET` (both parameters are supported).	Yes	None
`jobName`	The name of a **business ruleset** exactly as is defined in the Planning application. **Example**: `RollupUSSales`	Yes	None
`parameters`		No	Default values for the runtime prompts as provided in Calculation Manager will be used.

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs
```

```
{
    "jobType":"Ruleset",
    "jobName":"Calculate Plan Operating Expenses"
}
```

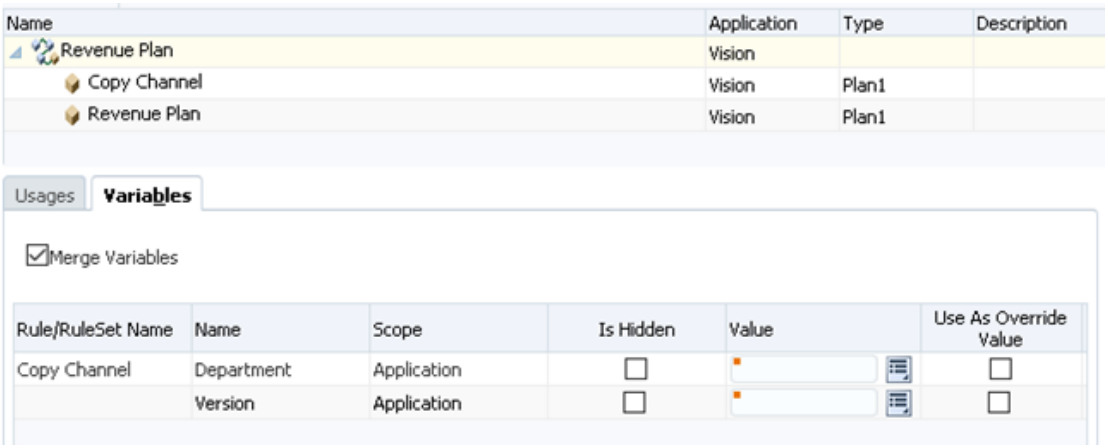
Example Ruleset Scenarios and POST Requests

These examples based on the Vision application illustrate how to run rulesets with parameters. For each example, review the sample ruleset in Calculation Manager to understand the sample POST request.

Example 1: Ruleset "Revenue Plan" when variables are merged and not hidden

In Revenue Plan, by default the variables are merged and hidden. When variables are hidden, the default values defined in Calculation Manager will be used when executing the ruleset and any values provided in the payload will be ignored.

Sample Ruleset in Calculation Manager

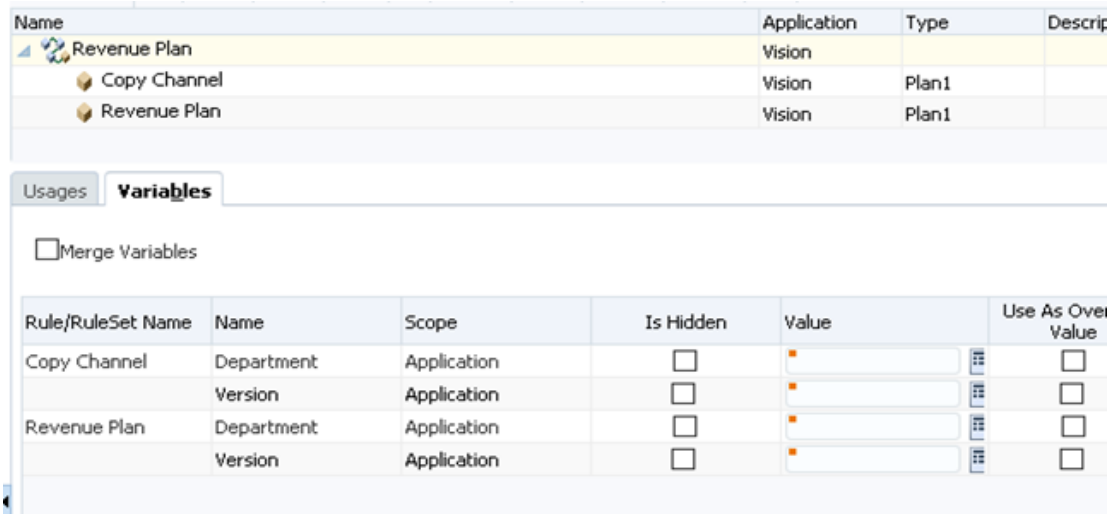


Sample POST request

```
{
    "jobType":"Ruleset",
    "jobName":"Revenue Plan",
    "parameters":
    {
        "Version":"Worst Case",
        "Department":"No Entity"
    }
}
```

Example 2: Ruleset "Revenue Plan" when variables are not merged and not hidden

Sample Ruleset in Calculation Manager



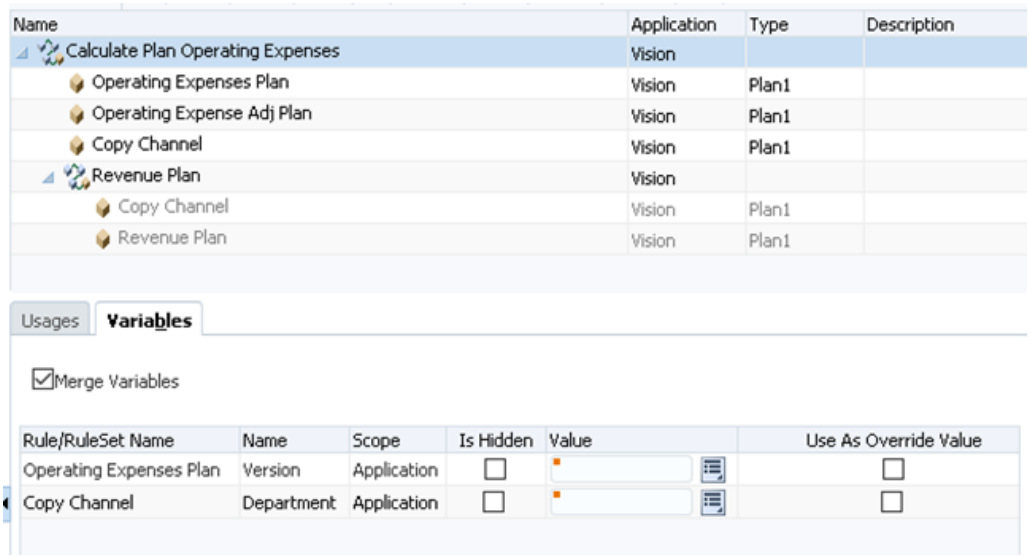
Sample POST request

```
{
    "jobType":"Ruleset",
    "jobName":"Revenue Plan",
```

```
    "parameters":
    {
        "Copy Channel.Department":"No Entity",
        "Copy Channel.Version":"Worst Case",

        "Revenue Plan.Department":"New Entity",
        "Revenue Plan.Version":"Best Case"
    }
}
```

Example 3: Ruleset "Calculate Plan Operating Expenses" with nested ruleset ("Revenue Plan") and variables are merged and not hidden

Sample Ruleset in Calculation Manager

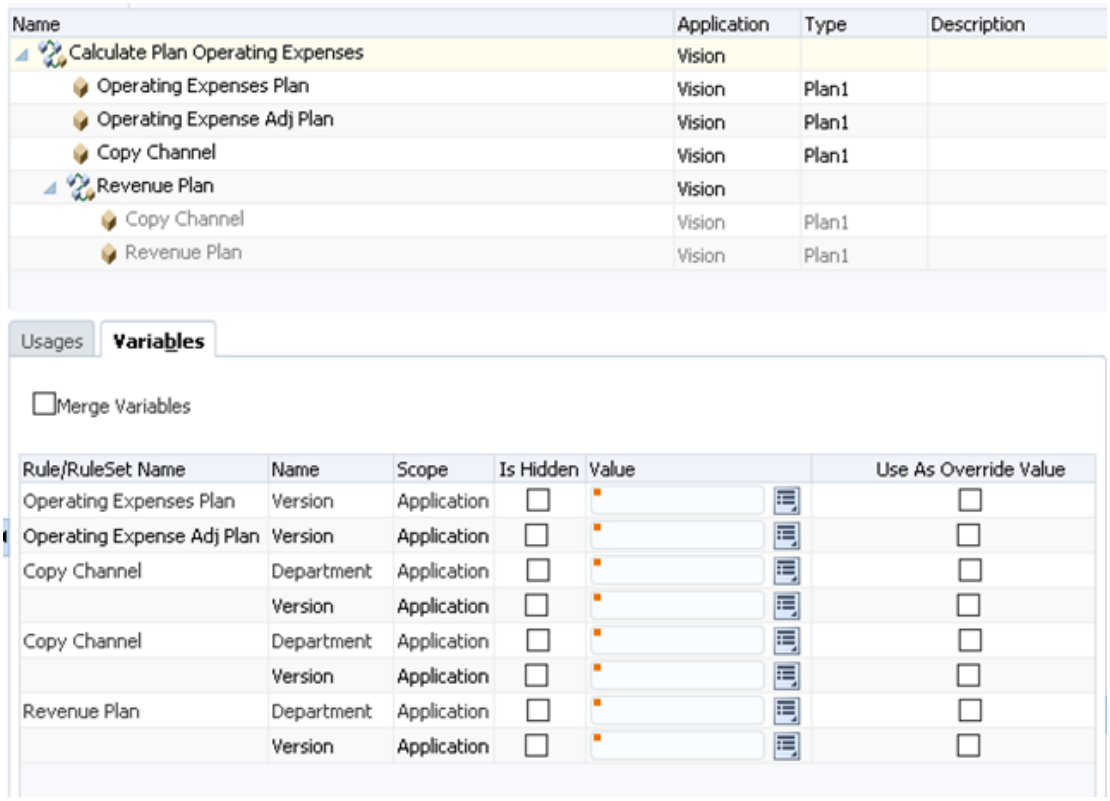


Sample POST request

```
{
    "jobType":"Ruleset",
    "jobName":"Calulate Plan Operating Expenses",
    "parameters":
    {
        "Department":"Unspecified Entity",
        "Version":"Most Likely"
    }
}
```

Example 4: Ruleset "Calculate Plan Operating Expenses" with a nested ruleset ("Revenue Plan") and variables that are not merged and not hidden

Sample Ruleset in Calculation Manager



Sample POST request

In this example, the same rule, Copy Channel, appears twice – once under Calculate Plan Operating Expenses, and once under Revenue Plan. This demonstrates how to provide the variables with their fully qualified paths.

```
{
    "jobType":"Ruleset",
    "jobName":"Calculate Plan Operating Expenses",
    "parameters":
    {
        "Operating Expenses Plan.Version":"Most Likely",
        "Operating Expense Adj Plan.Version":"What If",

        "Copy Channel.Department":"Unspecified Entity",
        "Copy Channel.Version":"Working",

        "Revenue Plan.Copy Channel.Department":"New Entity",
        "Revenue Plan.Copy Channel.Version":"Best Case",

        "Revenue Plan.Revenue Plan.Department":"No Entity",
        "Revenue Plan.Revenue Plan.Version":"Worst Case"
    }
}
```

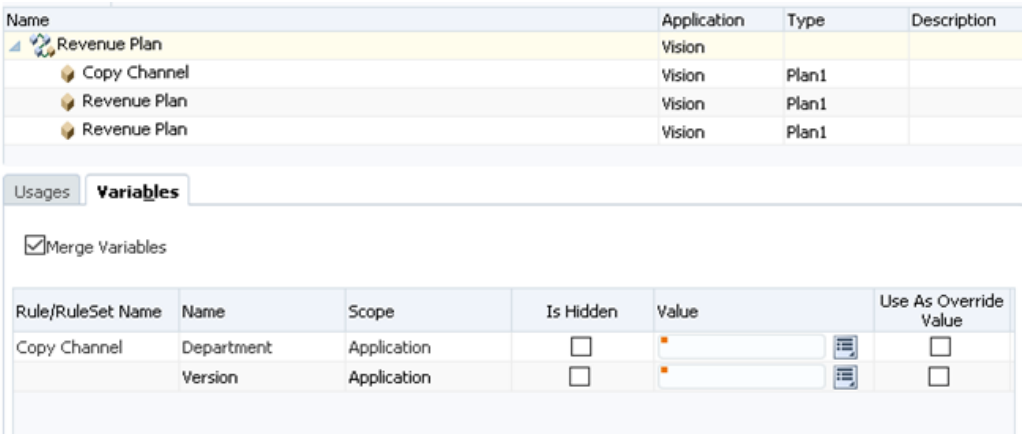
Optionally, you can provide the sequence indexes in the paths, as shown below.

```
{
    "jobType":"Ruleset",
    "jobName":"Calculate Plan Operating Expenses",
    "parameters":
    {
        "(1)Operating Expenses Plan.Version": "Most Likely",
        "(2)Operating Expense Adj Plan.Version": "What If",

        "(3)Copy Channel.Department": "Unspecified Entity",
        "(3)Copy Channel.Version": "Working",

        "(4.1)Revenue Plan.Copy Channel.Department": "New Entity",
        "(4.1)Revenue Plan.Copy Channel.Version": "Best Case",

        "(4.2)Revenue Plan.Revenue Plan.Department": "No Entity",
        "(4.2)Revenue Plan.Revenue Plan.Version": "Worst Case"
    }
}
```

Example 5: Ruleset "Revenue Plan" with variables that are merged and not hidden

This example shows two Revenue Plan rules within a ruleset. This demonstrates how to differentiate the variables when there are multiple variables with the same paths within the same parent in the ruleset.

Sample Ruleset in Calculation Manager



Sample POST request

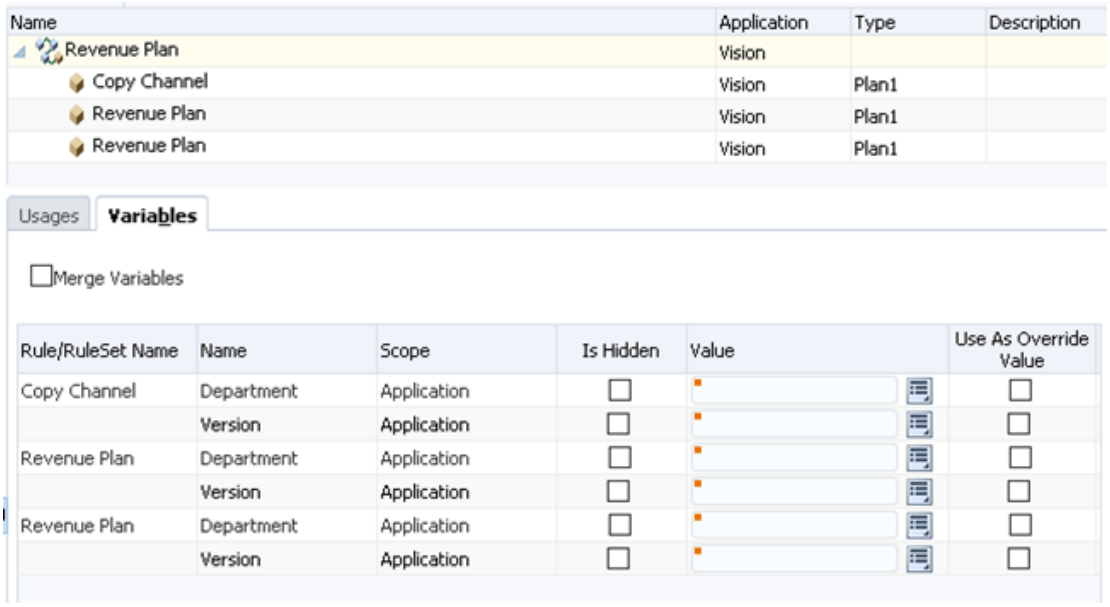
```
{
    "jobType":"Ruleset",
    "jobName":"Revenue Plan",
    "parameters":
    {
        "Version":"Worst Case",
        "Department":"New Entity"
```

```
    }
}
```

Example 6: Ruleset "Revenue Plan" with variables that are not merged and not hidden

This example shows two Revenue Plan rules within a ruleset. This demonstrates how to differentiate the variables when there are multiple variables with the same paths within the same parent in the ruleset.

Sample Ruleset in Calculation Manager



Sample POST request

```
{
    "jobType":"Ruleset",
    "jobName":"Revenue Plan",
    "parameters":
    {
        "(1)Copy Channel.Department":"No Entity",
        "(1)Copy Channel.Version":"Worst Case",

        "(2)Revenue Plan.Department":"New Entity",
        "(2)Revenue Plan.Version":"Best Case",

        "(3)Revenue Plan.Version":"What If",
        "(3)Revenue Plan.Department":"Unspecified Entity"
    }
}
```

Plan Type Map

Copies data from a block storage cube to an aggregate storage cube or from one to another based on the settings specified in a job of type `plan type map`.

For details about data maps, see Defining Data Maps in *Administering Data Integration for Oracle Enterprise Performance Management Cloud*.

This API is not supported for Financial Consolidation and Close or Tax Reporting.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-12 Plan Type Map

Name	Description	Required	Default
`jobType`	`Plan Type Map` or `PLAN_TYPE_MAP` (both parameters are supported)	Yes	None
`jobName`	The name of a job of type **plan type map** that is already defined in the application. Example: `CampaignToReporting`	Yes	None

Table 8-12 (Cont.) Plan Type Map

Name	Description	Required	Default
`parameters`	Optionally, you can specify these parameters: • `clearData` - Whether the data in the target database should be moved before copying data (defult: `true`). The value must use JSON syntax. Example: `{clearData:false}` • `overrideMembersMap` - A map containing the dimension name as the key and a member selection string as a value. Members specified in the map will replace the members in the data map definition during execution. • `overrideExclusionMembersMap` - A map containing the dimension name as the key and a member selection string as a value. Members specified in the map will be excluded from the member selection in the data map definition during execution. Any members from the evaluated exclusion selection not present in the evaluated member selection from the data map definition will be ignored. Notes: • The override parameters execute this data map using the specified override members map, clearing data in the target region beforehand if requested. The data map push will error out when the override members map contains members from unmapped dimensions of the target location. • The member selection string is a comma-separated string consisting of member names, functions or expressions.	No	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs
```

```
{
  "jobType": "PLAN_TYPE_MAP",
  "jobName": "MapReporting",
  "parameters": {
    "cubeLinkName": "name",
    "clearData": true
  }
}
```

Examples of overriding selections of the data map:

```
{
  "jobType": "PLAN_TYPE_MAP",
  "jobName": " MapReporting",
```

```
  "parameters": {
    "cubeLinkName": "MapChannels",
    "clearData": true,
    "overrideMembersMap": {
      "Period": "ILvl0Descendants(Q1)"
    },
    "overrideExclusionMembersMap": {
      "Period": "Jan"
    }
  }
}

  "overrideMembersMap": {
    "Period": "ILvl0Descendants(Q1)"
  }

  "overrideMembersMap": {
    "Period": "ILvl0Descendants(Q1)",
    "Account": "Sales"
  }
```

Examples of excluding members:

```
"overrideExclusionMembersMap": {
    "Period": "Jan"
  }


  "overrideExclusionMembersMap": {
    "Period": "Jan, Feb, &CurrMonth, ILvl0Descendants(Q1), YearTotal,
Red"
  }
```

Import Data

Use this REST API to import data from a file in the repository into the application using the import data settings specified in a job of type `Import Data`.

You can override some of the parameters of the job definition while executing this job from a REST API.

You can also import data using the parameter values provided, without an explicit predefined `Import Data` job definition.

For Planning, Financial Consolidation and Close, and Tax Reporting, you can review the rejected data records that have errors. To do this, specify an error file that captures the data records that are not imported for each dimension. If an errop file is specified, the ZIP file is stored in the Outbox where you can download the file using Inbox/Outbox Explorer or tools like EPM Automate or REST APIs, for example, with the Download API.

Required Roles

Service Administrator

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-13 Import Data

Name	Description	Required	Default
`jobType`	`Import Data` or `IMPORT_DATA` (both parameters are supported)	Yes	None
`jobName`	Name of this job. **Example:** dailydataload	No	Import Data
`importFileName`	You can specify the name of the ZIP, CSV or TXT (Oracle Essbase format data file) file from which data is to be imported. If the parameter passed to import data is in Essbase format, the ZIP file must contain an Essbase format TXT file. For other import jobs, the ZIP file may contain one or more CSV files that identify the import sequence in the file names; for example `data1-3.csv`, `data2-3.csv`, and `data3-3.csv`. The value must use JSON syntax.	Yes	None
`sourceType`	Paramter to specify the source of data. Allowed value is `Planning` or `Essbase`.	Yes	None
`delimiter`	Parameter to specify a delimiter. Allowed value is `comma` or `tab`. This is only applicable when the source type is `Planning`.	No	`comma`
`dateFormat`	Parameter to specify the data format. Allowed value is one of the following: `MM-DD-YYYY`, `DD-MM-YYYY`, or `YYYY-MM-DD`.	No	`MM-DD-YYYY`
`includeMetaData`	Parameter to specify to include metadata from the data file. Allowed value is `true` or `false`. This is only applicable when the source type is `Planning`.	No	`false`
`cube`	Parameter to specify the cube name. This is only applicable (and becomes mandatory) when the source type is `Essbase`.	Yes	None

Table 8-13 (Cont.) Import Data

Name	Description	Required	Default
`errorFile`	Paramter to specify the `errorFile` to store the rejected records (maximum 1,000). The error file is zipped with the name of this parameter. The ZIP file is stored in the Outbox. You can download it with the Download API. This API overrides any existing error file with the same name. Example: ImportDataErrorFile.zip	No	No error files are created
`stopOnError`	Parameter to stop the import process if an intermediate error is encountered during the import, for example, if data load finds an unknown member or invalid data value. This setting can only be used when `sourceType` is `Essbase`. When using this option, if you specified an error file, you can then review the rejected data record that has the error. The record is included in a ZIP file that is stored in the outbox where you can download it for review, for example, with the Download API. Allowed value is `true` or `false`.	No	`true`

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payloads

Example 1: Executes the import data job ImportJob and overrides the `importFileName` parameter.

```
{"jobType":"IMPORT_DATA","jobName":"ImportJob",
"parameters":{
     "importFileName":"myImportfile123.zip"
     }
}
```

Example 2: Executes the import data job ImportJob and overrides the `delimiter`, `dateFormat`, and `includeMetaData` parameters.

```
{"jobType":"IMPORT_DATA","jobName":"ImportJob",
"parameters":{
     "delimiter":"comma",
     "dateFormat":"MM-DD-YYYY",
     "includeMetaData":"false"
     }
}
```

Example 3: Executes the import data job ImportJob defined with `sourceType` as `Essbase` and overrides the `sourceType` and `cube` parameters.

```
{"jobType":"IMPORT_DATA","jobName":"ImportJob",
"parameters":{
     "sourceType":"Essbase",
     "cube":"Plan1"
     }
}
```

Example 4: Executes the ImportData job ImportDataJob and overrides the `errorFile` parameter with a value ImportDataErrorFile.zip. If error records are found during the Import Data operation, a ZIP file called ImportDataErrorFile.zip is created in the Planning repository. The generated error file can be downloaded from the Outbox from the job status page or using the Download REST API or EPM Automate downloadfile command.

```
{"jobType": "IMPORT_DATA",
    "jobName": "ImportDataJob",
    "parameters": {
      "errorFile":"ImportDataErrorFile.zip"
    }
}
```

Example 5: Executes the ImportData job ImportDataJob_Sample defined with `sourceType` as `Essbase`, and overrides the `stopOnError` parameter with the value as `true`. The data load will stop loading in case of an intermediate error.

```
{
    "jobType": "IMPORT_DATA",
    "jobName": "ImportDataJob_Sample",
    "parameters": {
        "importFileName":"importDataFile_Essabse.txt",
        "cube":"Plan1",
        "stopOnError":"true"
    }
}
```

Example 6: Executes the import data job with all the mandatory parameters.

```
{
   "jobType": "IMPORT_DATA",
   "parameters":{
      "sourceType": "Planning",
      "importFileName": "myImportfile123.zip",
      "delimiter": "comma"
   }
}
```

Example 7: Executes the import data job with all the mandatory parameters. The `sourceType` parameter is specified as `Essbase`, and `cube` provides the cube name. Default values are assumed for other non-mandatory parameters.

```
{
   "jobType": "Import Data",
   "parameters":{
      "sourceType": "Essbase",
      "cube": "Plan1",
      "importFileName": "EssbasePlan1_data.zip"
   }
}
```

Export Data

Use this REST API to export application data into a file using the export data settings, including file name, specified in a job of type export data. The file containing the exported data is stored in the repository.

You can override some of the parameters of the job definition while executing this job with a REST API.

You can also export application data into a file using the parameter values provided, without an explicit predefined `Export Data` job definition.

Exporting data supports substitution variables. You can use substitution variables while providing the `rowMembers`, `columnMembers`, and `povMembers` definitions. See *Exporting Data* and *Creating and Assigning Values to Substitution Variables* in *Administering Planning*.

Required Roles

Service Administrator

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-14 Export Data

Name	Description	Required	Default
`jobType`	`Export Data` or `EXPORT_DATA` (both parameters are supported)	Yes	None
`jobName`	The name of this job. **Example**: `dailydataexport`	No	`Export Data`

Table 8-14 (Cont.) Export Data

Name	Description	Required	Default
`exportFileName`	The file name for the exported data. Data is exported as a ZIP file only. The exported file is stored in the Planning repository. The value must use JSON syntax.	No	The file name for the exported data will be the same as `jobName`.
`delimiter`	Parameter to specify a delimiter. Allowed value is `comma` or `tab`.	No	`comma`
`exportSmartListAs`	Parameter to specify how Smart Lists are exported. Allowed value is `label` or `name`.	No	`label`, which signifies that Smart View labels will be exported.
`includeDynamicMembers`	Parameter to include or exclude dynamic members. Allowed value is `true` or `false`.	No	`true`, which signifies that dynamic members will be exported.
`cube`	Parameter to specify the cube from which to export data.	Yes	None
`rowMembers`	Parameter to specify the row members. **Example**: "Name,Price,Discount %"	Yes	None
`columnMembers`	Parameter to specify the column members. **Example**: "Name,Price,Discount %"	Yes	None
`povMembers`	Parameter to specify the POV members. **Example**: "Name,Price,Discount %"	Yes	None
`exportDataDecimalScale`	Parameter to specify the number of decimal positions (0-16) that will be returned when exporting data from Essbase. If the default `None` is selected, the data that is returned will not be formatted and will return as Essbase returns it. Selecting a numeric value will result in the exported data displaying that number of digits to the right of the decimal point, wherever applicable. For example, specifying 3 in the Decimals field will result in the exported data being formatted to display three digits to the right of the decimal point. Selecting 0 formats the data to display a whole number. **Example**: A value 27.07000001 can be formatted and written as 27.07 in the export data file if the value for this parameter is set to 2.	No	None

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payloads

Example 1: Executes the export data job `ExportJobDaily` and overrides the `exportFileName` parameter.

```
{"jobType":"EXPORT_DATA","jobName":"ExportJobDaily",
     "parameters":{
          "exportFileName":"myExportfile.zip"
          }
}
```

Example 2: Executes the export data job `ExportJobDaily` and overrides the delimiter, `exportSmartListAs`, and `includeDynamicMembers` parameters.

```
{"jobType":"EXPORT_DATA","jobName":"ExportJobDaily",
"parameters":{
     "delimiter":"tab",
     "exportSmartListAs":"name",
     "includeDynamicMembers":"true"
     }
```

Example 3: Executes the export data job `ExportJobDaily` and overrides the cube parameter only. This job will now execute for the cube Vis1ASO.

```
{"jobType":"EXPORT_DATA","jobName":"ExportJobDaily",
"parameters":{
     "cube":"Vis1ASO
     }
}
```

Example 4: Executes the export data job `ExportJobDaily` and overrides the cube name along with the `rowMembers`, `columnMembers`, and `povMembers` parameters. This job will now execute for the cube Vis1ASO.

```
{"jobType":"EXPORT_DATA","jobName":"ExportJobDaily",
"parameters":{
     "cube":"Vis1ASO",
     "rowMembers":"Current,Variance,Actual,Scenario",
     "columnMembers":"Statistics,Account",
     "povMembers":"Period,Year,Version,Entity,Product,Channel"
     }
}
```

Example 5: Executes the export data job `ExportJobDaily` and overrides the cube name along with the parameters `rowMembers`, `columnMembers`, and `povMembers`. We use substitution variables while overriding the `rowMembers`, `columnMembers`, and `povMembers` definition. This job executes for the cube `Vis1ASO`.

```
{"jobType":"EXPORT_DATA","jobName":"ExportJobDaily",
 "parameters":{
     "cube":"Vis1ASO",
     "rowMembers":"ILvl0Descendants(&Param1)",
     "columnMembers":"ILvl0Descendants(&Param2)",
     "povMembers":"Period,Year,Version,&Param3,Product,Channel"
     }
}
```

Example 6: Executes the export data job `ExportJobDaily` and overrides the cube name along with the parameters `exportDataDecimalScale`, `rowMembers`, and

columnMembers. We use substitution variables while overriding the rowMembers, columnMembers, and povMembers definition. This job executes for the cube Vis1ASO.

```
{"jobType":"EXPORT_DATA","jobName":"ExportJobDaily",
"parameters":{
     "cube":"Vis1ASO",
     "rowMembers":"ILvl0Descendants(&Param1)",
     "columnMembers":"ILvl0Descendants(&Param2)",
     "povMembers":"Period,Year,Version,&Param3,Product,Channel",
     "exportDataDecimalScale":"2"
     }
}
```

Example 7: Executes the export data job with all the mandatory parameters, cube, rowMembers, columnMembers, and povMembers. Default values are assumed for other non-mandatory parameters.

```
{"jobType": "EXPORT_DATA",
"parameters": {
     "cube": "Vis1ASO",
     "rowMembers": "ILvl0Descendants(&Param1)",
     "columnMembers": "ILvl0Descendants(&Param2)",
     "povMembers": "Period,Year,Version,&Param3,Product,Channel"
     }
}
```

Example 8: Executes the export data job with all the mandatory parameters, cube, rowMembers, columnMembers, and povMembers. Decimal precision is set to 3. Default values are assumed for other non-mandatory parameters.

```
{"jobType": "EXPORT_DATA",
"parameters":{
     "cube": "Plan1",
     "rowMembers": "ILvl0Descendants(&Param1)",
     "columnMembers": "ILvl0Descendants(&Param2)",
     "povMembers": "Period,Year,Version,&Param3,Product,Channel",
     "exportDataDecimalScale": 3
     }
}
```

Example 9: Executes the export data job with all the mandatory parameters, cube, rowMembers, columnMembers, and povMembers. Decimal precision is set to 3. Dynamic members are not exported. Default values are assumed for all other non-mandatory parameters.

```
{"jobType": "EXPORT_DATA",
"parameters":{
     "cube": "Plan1",
     "rowMembers": "ILvl0Descendants(&Param1)",
     "columnMembers": "ILvl0Descendants(&Param2)",
     "povMembers": "Period,Year,Version,&Param3,Product,Channel",
     "exportDataDecimalScale": 3,
```

```
        "includeDynamicMembers": false
        }
}
```

Import Metadata

Imports metadata from a file in the Planning repository into the application using the import metadata settings specified in a Planning job of type `import metadata`.

You can also override some of the parameters of the job definition while executing this job from a REST API.

For Planning, Financial Consolidation and Close, and Tax Reporting, you can specify an error file that captures the metadata records that are not imported for each dimension. If an error file is specified, a separate error file is created for each dimension. The error files are then zipped together and the zip file is stored in the Outbox where you can download the file using Inbox/Outbox Explorer or tools like EPM Automate or REST APIs, for example, with the Download API.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-15 Import Metadata

Name	Description	Required	Default
`jobType`	Import Metadata or IMPORT_METADATA (both parameters are supported)	Yes	None
`jobName`	The name of a job of type **import metadata** exactly as it is already defined in the Planning application. **Example**: `importAccount`	Yes	None

Table 8-15 (Cont.) Import Metadata

Name	Description	Required	Default
`importZipFileName`	Optionally, you can specify the name of the ZIP file from which metadata is to be imported. The contents of the ZIP file that you specify take precedence over the file names defined in the job. The ZIP file may contain one or more CSV files. The file names containing metadata for dimensions should match the import file names defined in the job or end with *_DIMENSIONNAME.csv*; for example, `metadata_Entity.csv`, `metadata_HSP_SmartLists.csv`, and `metadata_Exchange Rates.csv`. Only metadata for the dimensions for which metadata import is set up in the job is imported. Metadata for other dimensions, if contained in the ZIP file, is ignored. **Example:** {importZipFileName:importAccount.zip}	No	The import file name defined in the job definition.
`refreshCube`	You can override the option to perform a refresh cube action defined in the job. Allowed values are either `true` or `false`.	No	"Refresh Database if Import Metadata is successful" parameter of the job definition.
`errorFile`	Optionally, create a separate error file for each dimension. The error files are zipped with the name of this parameter. The ZIP file is stored in the Outbox. You can download it with the Download API. This API overrides any existing error file with the same name **Example**: ImportMetaDataErrorFile.zip	No	No error files are created.

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example: Executes the job `ImportMetaDataJob` and overrides only the `importZipFileName` parameter.

```
{
    "jobType": "IMPORT_METADATA",
    "jobName": "ImportMetaDataJob",
    "parameters": {
        "importZipFileName": "myMetaDataDailyJob.zip"
    }
}
```

Example: Executes the job `ImportMetaDataJob` and overrides the `errorFile` parameter with a value `ImportMetaDataErrorFile.zip`. If there are error records found during the Import Metadata operation for one or more dimensions, a ZIP file called `ImportMetaDataErrorFile.zip` is created in the repository that contains one error CSV file for each failed dimension. The generated error file can be downloaded from the Outbox from

the job status page or using the Download REST API or EPM Automate `downloadfile` command.

```
{
    "jobType": "IMPORT_METADATA",
    "jobName": "ImportMetaDataJob",
    "parameters": {
            "errorFile":"ImportMetaDataErrorFile.zip"
    }
}
```

Export Metadata

Exports metadata into a file using the settings specified in a Planning job of type `export metadata`. The file containing the exported metadata is stored in the Planning repository.

You can also override some of the parameters of the job definition while executing this job from a REST API.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-16 Export Metadata

Name	Description	Required	Default
`jobType`	`Export Metadata` or `EXPORT_METADATA` (both parameters are supported)	Yes	None
`jobName`	The name of a job of type **export metadata** exactly as it is already defined in the Planning application. **Example**: `dailyAccountExport`	Yes	None
`exportZipFileName`	Optionally, you can specify a file name for the exported metadata. Metadata is exported as a ZIP file only. The value must use JSON syntax. **Example**: `{exportZipFileName:Accountexport.zip}`	No	The file name for the exported metadata will be the same as Job Name

For a sample URL, see Sample URL and Payload in Execute a Job.

Example Payload

Example: Executes the export metadata job "ExportMetadataDaily" and overrides the `exportZipFileName` parameter.

```
{
    "jobType": "EXPORT_METADATA",
    "jobName": "ExportMetadataDaily",
    "parameters": {
        "exportZipFileName": "dailyMetaData.zip"
    }
}
```

Cube Refresh

Refreshes the Planning application cube. Typically, you refresh the cube after importing metadata into the application.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-17 Cube Refresh

Name	Description	Required	Default
`jobType`	`Cube Refresh` or `CUBE_REFRESH` (both parameters are supported)	Yes	None
`jobName`	Name of the job to run. You must use the exact name of a job that is already defined in the application. **Example**: `refreshcube`	Yes	None
`allowedUsersDuringCubeRefresh`	Possible values: `Administrators` or `All Users`	No	None
`terminateActiveRequestsBeforeCubeRefresh`	Possible values: `true` or `false`	No	None
`logOffAllUsersBeforeCubeRefresh`	Possible values: `true` or `false`	No	None

Table 8-17 (Cont.) Cube Refresh

Name	Description	Required	Default
`allowedUsersAfterCubeRefresh`	Possible values: `Administrators` or `All Users`	No	None

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

```
{"jobType":"CUBE_REFRESH","jobName":"CubeRefresh"}
```

Sample Payload overriding parameters:

```
{"jobType":"CUBE_REFRESH","jobName":"MyRefreshCube","parameters":
{"allowedUsersDuringCubeRefresh":"   All Users",
"terminateActiveRequestsBeforeCubeRefresh":"false","logOffAllUsersBefor
eCubeRefresh":"true","allowedUsersAfterCubeRefresh":"Administrators"}}
```

Clear Cube

Enables you to clear specific data within input and reporting cubes.

You can clear the data using member selection or a valid MDX query. Using member selection, you can also optionally clear related supporting details, comments, and attachments. You can also elect to do a physical or logical clear of data. This gives you more flexibility and granularity when clearing the cube.

NOTE: The Clear Cube job deletes the data you specify within input and reporting cubes, but it does not delete the application definition in the application's relational tables.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-18 Clear Cube

Name	Description	Required	Default
`jobType`	`Clear Cube` or `CLEAR_CUBE` (both parameters are supported)	Yes	None
`jobName`	Name of the job to run. **Important**: You must use the exact name of a job that is already defined in the application. **Example**: `ClearPlan1`	Yes	None
`cube`	Valid ASO cube name	No	As per the job definition
`members`	Valid member selection that is comma separated. Applicable only for Partial Clear Job, for an ASO cube, defined with member selection. **Example**: `"ILvl0Descendants(Exchange Rates),Total Expense"`	No	As per the job definition
`mdxQuery`	Valid MDX query. Applicable only for Partial Clear Job, for an ASO cube, defined with MDX query support. **Example**: `"Crossjoin({[Apr],[May],[Jun]},{[Expense1]})"`	No	As per the job definition
`clearSupportingDetails`	Specify if supporting details should be cleared. Allowed values: `true` or `false`. Applicable only for Partial Clear Job, for an ASO cube, defined with member selection.	No	As per the job definition
`clearComments`	Specify if comments should be cleared. Allowed values: `true` or `false`. Applicable only for Partial Clear Job, for an ASO cube, defined with member selection.	No	As per the job definition

Table 8-18 (Cont.) Clear Cube

Name	Description	Required	Default
`clearAttachments`	Specify if attachments should be cleared. Allowed values: `true` or `false`. Applicable only for Partial Clear Job, for an ASO cube, defined with member selection.	No	As per the job definition
`clearPhysicalOnEssbase`	Specify if this is a physical clear on Essbase. Allowed values: `true` or `false`. Applicable only for Partial Clear Job, for an ASO cube, defined with member selection or MDX query support.	No	As per the job definition

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

```
{"jobType":"CLEAR_CUBE", "jobName":"ClearPlan1"}
```

Example: Executes the clear job `Clear_Partial_Basic`, which is defined with member selection, and overrides the `cube` and `members` parameters.

```
{
    "jobType": "Clear Cube",
    "jobName": "Clear_Partial_Basic",
    "parameters": {
        "cube": "HP1_ASO",
        "members": "ILvl0Descendants(Exchange Rates),Siblings(Total
Expense)"
    }
}
```

Example: Executes the clear job `Clear_Partial_Basic`, which is defined with member selection, and overrides the `cube`, `clearSupportingDetails`, `clearComments`, and other parameters.

```
{
    "jobType": "Clear Cube",
    "jobName": "Clear_Partial_Basic",
    "parameters": {
        "cube":"HP1_ASO",
        "members":"ILvl0Descendants(Exchange Rates),Siblings(Total
Expense)",
        "clearSupportingDetails":"false",
        "clearComments":false,
        "clearAttachments":false,
        "clearPhysicalOnEssbase":false
```

```
    }
}
```

Example: Executes the clear job `Clear_Partial_Advanced`, which is defined with the MDX query, and overrides the `mdxQuery` parameter.

```
{
    "jobType": "Clear Cube",
    "jobName": "Clear_Partial_Advanced",
    "parameters": {
            "mdxQuery":"Crossjoin({[Apr],[May],[Jun]},{[Expense1]})"
    }
}
```

Example: Executes the clear job `Clear_Partial_Advanced`, which is defined with the MDX query, and overrides the `cube`, `mdxQuery`, and `clearPhysicalOnEssbase` parameters.

```
{
    "jobType": "Clear Cube",
    "jobName": "Clear_Partial_Advanced",
    "parameters": {
        "cube":"HP1_ASO",
        "mdxQuery":"Crossjoin({[Apr],[May],[Jun]},{[Expense1]})",
         "clearPhysicalOnEssbase":false
    }
}
```

Administration Mode

Changes the login level for a Planning application. If you set login level to Administrators, all Interactive Users and Planners will be logged off of the application upon completion of the job. For details on administration mode, see Scheduling Jobs.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-19 Parameters

Name	Description	Required	Default
`jobType`	Administration Mode	Yes	None

Table 8-19 (Cont.) Parameters

Name	Description	Required	Default
`jobName`	The job name to be used for this job execution. **Example:** AppAdminJob	No	Administration Mode
`loginLevel`	Specify the login level for users using `loginLevel`. Possible values are **Administrators** or **All Users**	Yes	None

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example: This request will change the login level of the application to "Administrators" level.

```
{
    "jobType": "Administration Mode",
    "jobName": "AppAdminJob",
    "parameters": {
        "loginLevel": "Administrators"
    }
}
```

Compact Cube

Compacts the outline file of an ASO cube. Compaction helps keep the outline file at an optimal size. Compacting the outline does not clear the data. For more information, see Scheduling Jobs.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-20 Parameters

Name	Description	Required	Default
`jobType`	Compact Cube	Yes	None
`jobName`	The job name to be used for this job execution. **Example:** `CompactCube`	No	Compact Outline
`cubeName`	Name of the ASO cube	Yes	None

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example: This request will compact the outline of Vis1ASO ASO cube.

```
{
    "jobType": "Compact Cube",
    "jobName": "CompactCube",
    "parameters": {
        "cubeName": "Vis1Aso"
    }
}
```

Restructure Cube

Performs a full restructure of a BSO cube to eliminate or reduce fragmentation. For more information, see Scheduling Jobs.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

REST Resource

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-21 Parameters

Name	Description	Required	Default
`jobType`	Restructure Cube	Yes	None

Table 8-21 (Cont.) Parameters

Name	Description	Required	Default
`jobName`	The job name to be used for this job execution. **Example:** RestructureCube	No	Restructure Cube
`cubeName`	Name of the BSO cube	Yes	None

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example: This request will restructure Plan1 BSO

```
{
    "jobType": "Restructure Cube",
    "jobName": "RestructureCube",
    "parameters": {
        "cubeName": "Plan1"
    }
}
```

Merge Data Slices

Merges incremental data slices of an ASO cube. Fewer slices improve a cube's performance. You can merge all incremental data slices into the main database slice or merge all incremental data slices into a single data slice without changing the main database slice. You can optionally remove cells that have a value of zero. For more information, see Scheduling Jobs.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-22 Parameters

Name	Description	Required	Default
`jobType`	Merge Data Slices	Yes	None

Table 8-22 (Cont.) Parameters

Name	Description	Required	Default
`jobName`	The job name to be used for this job execution. **Example:** MergeDataSlice	No	Merge Data Slices
`cubeName`	Name of the ASO cube	Yes	None
`keepZeroCells`	Possible values are ***true*** or ***false***	Yes	None
`mergeSliceType`	Possible values are ***allIncrementalSlicesInMain*** (Merge all into the main slice) Or ***allIncrementalSlicesInOneIncremental*** (Merge all incremental into a single incremental slice)	Yes	None

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example: This request will merge all incremental data slices in the main data slice and keep zero value cells.

```
 {
    "jobType": "Merge Data Slices",
    "jobName": "MergeDataSlice",
    "parameters": {
        "cubeName": "VisASO",
        "mergeSliceType": "allIncrementalSlicesInMain",
        "keepZeroCells": "true"
    }
}
```

Optimize Aggregation

Improves the performance of ASO cubes. This job has two actions: Enable query tracking and Execute aggregation process. It performs an aggregation, optionally specifying the maximum disk space for the resulting files, and optionally basing the view selection on user querying patterns. This API is only applicable to aggregate storage databases. For information about scheduling jobs, see Scheduling Jobs.

Before using this API, you must first enable query tracking to capture tracking statistics on the aggregate storage cube. Then, after you enable query tracking, you must allow sufficient time to collect user data-retrieval patterns before you execute the aggregation process based on query data. The execute aggregation process deletes existing aggregated views and generates optimized views based on the collected query tracking data.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

REST Resource

```
POST     /HyperionPlanning/rest/{api_version}/applications/
{application}/jobs/{jobId}
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-23 Parameters

Name	Description	Required	Default
`jobType`	Optimize Aggregation	Yes	None
`jobName`	The job name to be used for this job execution	No	Optimize Aggregation
`parameters`	Parameters required for the job	Yes	None
`cubeName`	Name of the ASO cube	Yes	None
`type`	Can take one of these values: **enableQueryTracking** or **executeAggregationProcess**	Yes	None
`useQueryData`	Aggregate the views the server selects based on collected user querying patterns. This option is only available if query tracking is turned on. Permissible values: **true** or **false**. Default: false. Applicable only if type is **executeAggregationProcess**.	No	None

Table 8-23 (Cont.) Parameters

Name	Description	Required	Default
`includeAlternateRollups`	Include secondary hierarchies (with default level usage) in the view selection. Permissible values: **disable** or **enable**. Default: disable (no secondary hierarchies are considered). Applicable only if type is **executeAggregationProcess**.	No	None
`growthSizeRatio`	Aggregates the views the server selects until the maximum growth of the aggregated database exceeds the limits you specify. The value can be a real number such as 1.01. Default is that the database will grow without any growth ratio limit. Applicable only if type is **executeAggregationProcess** .	No	None

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example 1: This request will enable query tracking on the Vis1ASO cube.

```
{
    "jobType": "Optimize Aggregation",
    "jobName": "CubeOptimizeAggr",
    "parameters": {
        "cubeName": "Vis1ASO",
        "type": "enableQueryTracking"
    }
}
```

Example 2: This request will execute the aggregation process on the Vis1ASO cube.

```
{
    "jobType": "Optimize Aggregation",
    "jobName": "CubeOptimizeAggr",
    "parameters": {
```

```
        "cubeName": "Vis1ASO",
        "type": "executeAggregationProcess"
    }
}
```

Example 3: This request will execute aggregation process on the Vis1ASO cube. Aggregation process will use the query tracking data, will not include alternate roll ups, and use growth size ratio as 1.01.

```
{
    "jobType": "Optimize Aggregation",
    "jobName": "CubeOptimizeAggr",
    "parameters": {
        "cubeName": "Vis1ASO",
        "type": "executeAggregationProcess",
        "useQueryData": "true",
        "includeAlternateRollups": "disable",
        "growthSizeRatio": "1.01"
    }
}
```

Import Security

Imports the security records or access control list (ACL) records from a Comma Separated Values (CSV) file. For information about access permissions to application artifacts, see Setting Up Access Permissions.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Excel File Format

- Object Name: The name of the object for which the ACL is defined
- Name: The name of the user or group for which the ACL is defined
- Parent: The name of the parent of the object
- Is User: The flag (Y or N) that determines if the ACL is defined for a user or for a group
- Object Type: The type of object, for example, `Forms folder`
- Access Type: The type of privilege, such as READ or READWRITE
- Access Mode: Additional information, such as if the ACL is applicable on the descendants
- Remove: To remove a particular ACL, set this to Y

All possible values:

Object Type:

- SL_FORM - Form
- SL_COMPOSITE - Composite Form
- SL_TASKLIST - Tasklist

- SL_CALCRULE - Rule
- SL_FORMFOLDER - Form Folder
- SL_CALCFOLDER - Rule Folder
- SL_DIMENSION - Dimension
- SL_CALCTEMPLATE - Template
- SL_REPORT - Management Report
- SL_REPORTSSHOT - Management Report Snapshot

Access Type:

- NONE - None
- READ - Read
- WRITE - Write
- READWRITE - Read Write
- LAUNCH - Launch

Access Mode:

- MEMBER
- CHILDREN
- @ICHILDREN
- @DESCENDANTS
- @IDESCENDANTS

CSV File Example:

```
Object Name,Name,Parent,Is User,Object Type,Access Type,Access Mode,Remove

"Exchange Rates to USD","ats_user3","Y","SL_FORM","READWRITE","MEMBER","N"

"Exchange Rates to USD","ats_user4","Y","SL_FORM","READWRITE","MEMBER","N"

"Exchange Rates to USD","ats_user15","Y","SL_FORM","READ","MEMBER","N"

"Exchange Rates to USD","ats_user10","Y","SL_FORM","NONE","MEMBER","N"

"Calculate Benefits","group_1","N","SL_COMPOSITE","READWRITE","MEMBER","N"
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-24 Parameters

Name	Description	Required	Default
`jobType`	Import Security	Yes	None
`jobName`	The job name to be used for this job execution. **Example:** ImportSecurity	No	Import Security
`fileName`	The input CSV file for import. The file containing the ACL records should be present in the Planning Cloud repository.	Yes	None
`clearAll`	Clear existing access permissions when importing new access permissions. Possible values are `true` or `false`	No	False
`errorFile`	Optionally, create a separate error file for recording any errors that occur during the import process. The file containing the error messages is stored in the Outbox. You can download it with theDownload API. This API overrides any existing error file with the same name.	No	None

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example 1: Imports security records from the input file `ImportSecurityRecordsFile.csv`. Existing security records are retained.

```
{
    "jobType": "Import Security",
    "jobName": "ImportSecurity",
    "parameters": {
        "fileName": "ImportSecurityRecordsFile.csv"
    }
}
```

Example 2: Imports security records from the input file `ImportSecurityRecordsFile.csv`. Clears existing security records before importing.

```
{
    "jobType": "Import Security",
    "jobName": "ImportSecurity",
    "parameters": {
        "fileName": "ImportSecurityRecordsFile.csv"
        "clearAll": "true"
    }
}
```

Example 3: Imports security records from the input file `ImportSecurityRecordsFile.csv` and exports the error messages to the file `SecurityImportErrors.txt`. Existing security records are retained.

```
{
    "jobType": "Import Security",
    "jobName": "ImportSecurity",
    "parameters": {
        "fileName": "ImportSecurityRecordsFile.csv"
        "clearAll": "true"
        "errorFile": "SecurityImportErrors.txt"
    }
}
```

Export Security

Exports the security records or access control list (ACL) records for specified users or groups to a Comma Separated Values (CSV) file. For information about access permissions to application artifacts, see Setting Up Access Permissions.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-25 Parameters

Name	Description	Required	Default
`jobType`	Export Security	Yes	None

Table 8-25 (Cont.) Parameters

Name	Description	Required	Default
`jobName`	The name of this job. **Example:** ExportSecurity	No	Export Security
`fileName`	The name of the file to which records should be exported. The file containing the exported data is stored in the Planning repository. If `fileName` is not specified, a file is auto-generated with a name containing the user name, current date, and time stamp. For example, `test_admin_SecurityRecords_2019-02-26-04-34-45-420.csv`.	No	The file name is auto-generated
`exportUsers`	Comma separated user names. Only ACL records related to the specified users are exported.	No	None
`exportGroups`	Comma separated user names. Only ACL records related to the specified groups are exported.	No	None

Notes:

- This job can take only `exportGroups` or `exportUsers` at one time. If you need to export groups and users, you must run the job twice, once with each parameter.
- If a user name or group name contains a comma, escape the comma in the request. For example, if a user name is `test,User`, the request should contain `test\\,User`.
- For the file format, see the definition in Import Security Records.

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example 1: Exports all security records to the `ExportSecurityRecordsFile.csv file`.

```
{
    "jobType": "Export Security",
    "jobName": "ExportSecurity",
    "parameters": {
        "fileName": "ExportSecurityRecordsFile.csv"
```

```
    }
}
```

Example 2: Exports security records of two groups, group1 and group2, to the `ExportSecurityRecordsFile.cv` file.

```
{
    "jobType": "Export Security",
    "jobName": "ExportSecurity",
    "parameters": {
        "exportGroups": "group1,group2"
        "fileName": "ExportSecurityRecordsFile.csv"
    }
}
```

Example 3: Exports security records of two users, `test1` and `test,User2` to the `ExportSecurityRecordsFile.csv` file. Note that one user name contains a comma in it.

```
{
    "jobType": "Export Security",
    "jobName": "ExportSecurity",
    "parameters": {
        "exportUsers": "test1,test\\,User2"
        "fileName": "ExportSecurityRecordsFile.csv"
    }
}
```

Export Audit

Exports the audit records to a Comma Separated Values (CSV) file. The output CSV file contains the first character as a Byte Order Mark (BOM) character `\ufeff`. The API writes an encrypted application identifier following the BOM character. This application identifier is written between double-quotes. Headers for the CSV file follow the application identifier. For more information, see Auditing Tasks and Data.

You can use an optional `excludeApplicationId` parameter to not write the application identifier in the export file. Exported audit reports without the application identifier cannot be imported back into the application.

The generated CSV file is compressed and the output is a ZIP file. The file can be downloaded using the Download REST API.

Required Roles

Service Administrator

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-26 Parameters

Name	Description	Required	Default
`jobType`	Export Audit	Yes	None
`jobName`	The job name to be used for this job execution. **Example:** `ExportAudit`	No	Export Audit
`userNames`	Comma separated user names. Audit records created by only the specified users are exported. If not specified, audit records created by all users are exported.	No	None
`fileName`	The name of the file to which records should be exported. The file containing the exported data is stored in the Oracle Planning and Budgeting Cloud repository. If `fileName` is not specified, a file is auto-generated with a name containing the user name, current date, and time stamp. For example, `test_admin_AuditRecords_2019-02-26-04-34-45-420.zip`	No	The file name is auto-generated

Table 8-26 (Cont.) Parameters

Name	Description	Required	Default
`nDays`	Number of days for which audit records should be exported. Possible values are: • **1**: Export audit records for the last 24 hours • **2**: Export audit records for the last two days • **7**: Export audit records for the last seven days • **30**: Export audit records for the last 30 days • **60**: Export audit records for the last 60 days • **180**: Export all existing audit records for the last 180 days • **All**: Export all audit records **Note**: Audit information is maintained for up to 365 days from the current system date.	No	7
`excludeApplicationId`	Optionally, you can specify if the application identifier should be written in the export file. Possible values: `true` or `false` This parameter can benefit those customers who do not want the application identifier to be included in the export file to help import into their own systems. This export file cannot be used to import into an EPM Cloud environment.	No	`false`

Notes:

- This job does not export records based on group names.
- If a user name contains a comma, escape the comma in the request. For example, if a user name is `test,User` then add `test\\,User` to the request.

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example 1: Exports the last 180 days of audit records to the `ExportAuditLast180Days.zip` file.

```
{
    "jobType": "Export Audit",
    "jobName": "Export180DaysAudit",
    "parameters": {
        "fileName": "ExportAuditLast180Days.zip",
          "ndays": "180"
    }
}
```

Example 2: Exports the last seven days of audit records created by planner1 and planner2. Records are exported to a zip file with an auto-generated file name.

```
{
    "jobType": "Export Audit",
    "jobName": "AllAuditRecordsOfPlanners",
    "parameters": {
         "userNames": "planner1, planner2"
    }
}
```

Example 3: Exports the last 180 days of audit records to the `ExportAuditLast180Days.zip` file. The application identifier will be not written in the generated file. This export file cannot be used to import into an EPM Cloud environment.

```
{
    "jobType": "Export Audit",
    "jobName": "Export180DaysAudit",
    "parameters": {
        "fileName": "ExportAuditLast180Days.zip",
      "ndays": "180",
        "excludeApplicationId": "true"
    }
}
```

Export Job Console

Exports the job console records to a Comma Separated Values (CSV) file. The output CSV file contains the first character as a Byte Order Mark (BOM) character, `\ufeff`. The API writes an encrypted application identifier following the BOM character. This

application identifier is written between double-quotes. Headers for the CSV file follow the application identifier.

You can use an optional `excludeApplicationId` parameter to not write the application identifier in the export file. Exported job console data files without the application identifier cannot be imported back into the application.

The generated CSV file is compressed and the output is a ZIP file. The file can be downloaded using the Download REST API.

To view pending jobs, see Viewing Pending Jobs and Recent Activity.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-27 Parameters

Name	Description	Required	Default
`jobType`	Export Job Console	Yes	None
`jobName`	The job name to be used for this job execution. **Example:** `ExportWeeklyJobStatusRecords`	No	Export Job Console
`userNames`	Comma separated user names. Job console records created by only the specified users are exported. If not specified, job console records created by all users are exported.	No	None

Table 8-27 (Cont.) Parameters

Name	Description	Required	Default
`fileName`	The name of the file to which records should be exported. The file containing the exported data is stored in the Planning repository. If `fileName` is not specified, a file is auto-generated with a name containing the user name, current date, and time stamp. For example, `test_admin_JobConsoleRecords_2019-02-26-04-34-45-420.zip`	No	The file name is auto-generated
`ndays`	Number of days for which audit records should be exported. Possible values are. • **1**: Export job console records for the last 24 hours • **2**: Export job console records for the last two days • **7**: Export job console records for the last seven days • **30**: Export job console records for the last 30 days • **60**: Export job console records for the last 60 days • **All**: Export all job console records	No	7
`jobNames`	Comma-separated job names for which job console records should be exported.	No	None

Table 8-27 (Cont.) Parameters

Name	Description	Required	Default
`jobTypes`	Comma-separated job codes for which job console records should be exported. Possible values are: • ALL • Rules or RULES • Ruleset or RULESET • Clear Cell Details or CLEAR_CELL_DETAILS • Copy Data or COPY_DATA • Invalid Intersection Report/ INVALID_INTERSECTION_RPT • Copy Versions or COPY_VERSIONS • Content Upgrade or CONTENT_UPGRADE • Plan Type Map or PLAN_TYPE_MAP • Import Data or IMPORT_DATA • Export Data or EXPORT_DATA • Export Metadata or EXPORT_METADATA • Import Metadata or IMPORT_METADATA • Cube Refresh or CUBE_REFRESH • Clear Cube or CLEAR_CUBE • Administration Mode or ADMIN_MODE • Compact Cube or COMPACT_CUBE • Restructure Cube or RESTRUCTURE_CUBE	No	Rules

Table 8-27 (Cont.) Parameters

Name	Description	Required	Default
	• Merge Data Slices or MERGE_DATA_SLICES • Optimize Aggregation or OPTIMIZE_AGGREGATION • Import Security or SECURITY_IMPORT • Export Security or SECURITY_EXPORT • Export Audit or AUDIT_EXPORT • Export Job Console or JOBCONSOLE_EXPORT • Sort Members or SORT_MEMBERS • Smart Push or SMART_PUSH • Import Exchange Rates or IMPORT_EXCHANGE_RATES • Execute Bursting Definition or EXECUTE_MR_BURST		

Table 8-27 (Cont.) Parameters

Name	Description	Required	Default
`jobStatusCodes`	Comma-separated status code of the jobs for which job records are exported. Possible values are: `1` - Processing `2` - Completed successfully `3` - Failed with errors `4` - Completed with unknown status `5` - Completed with threshold violation status `6` - Pending cancellation `7` - Cancelled `8` - Completed with errors `9` - Completed with warnings `all` - All jobs with any status	No	2
`exportErrorDetails`	If true, exports the details of failed/error jobs as separate error log file in the final output file. Job status details of jobs having one of the status listed below are exported in separate files. • Error • Unknown • Completed with Threshold Exception • Completed with Errors • Completed with Warnings	No	true

Table 8-27 (Cont.) Parameters

Name	Description	Required	Default
`topCountDuration`	Filters the top *n* job status records by completion time. This is useful for finding the longest running jobs. For example, enter `10` for this parameter to review the top 10 longest running jobs, as in this example: `"topCountDuration":"10"`	No	0 Represents all records
`excludeApplicationId`	Optionally, you can specify if the application identifier should be written in the export file. Possible values: `true` or `false` This parameter can benefit those customers who do not want the application identifier to be included in the export file to help import into their own systems. This export file cannot be used to import into an EPM Cloud environment.	No	false

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example 1: Exports the job console records for all default parameters into the `NewFile.csv` file. Exports status of all Rule jobs completed in the last seven days.

```
{
     "jobType":"JOBCONSOLE_EXPORT",
     "jobName":"AllJobConsoleExports",
     "parameters":{"fileName":"NewFile.csv"}
}
```

Example 2: Exports the job console records for Rule and Export Data jobs that completed normally or with an error status over the last month into the

`exportFile.csv` file. Job details of the failed jobs are exported in separate files in the final compressed file.

```
{
     "jobType":"JOBCONSOLE_EXPORT",
     "parameters":{"fileName":"exportFile.csv", "jobTypes": "Rules,
EXPORT_DATA", "jobStatusCodes": "2,3", "ndays":"30"}
}
```

Example 3: Exports the job console records for the jobs named Daily Consolidation and Smart Push to a Reporting Cube. Includes jobs that completed normally or with an error status over the last month into the `exportFile.csv` file. Job details of the failed jobs are not exported in separate files because `exportErrorDetails` is `false`.

```
{
     "jobType":"JOBCONSOLE_EXPORT",
     "parameters":{"fileName":"exportFile.csv", "jobNames":"Daily
Consolidation, Smart Push to Reporting Cube", "jobStatusCodes": "2,3",
"ndays":"30", "exportErrorDetails":"false"}
}
```

Example 4: Exports the top 10 longest running jobs:

```
{
     "jobType":"JOBCONSOLE_EXPORT",
     "parameters":{"fileName":"exportFile.csv", "jobStatusCodes": "all",
"ndays":"all", "jobTypes":"all", "exportErrorDetails":"false",
"topCountDuration":"10"}
}
```

Example 5: Exports the job console records for all default parameters into to the `NewFile.csv` file. This exports status of all Rule jobs completed in the last seven days. The application identifier will be not written in the generated file. This export file cannot be used to import into an EPM Cloud environment.

```
{
     "jobType":"JOBCONSOLE_EXPORT",
     "jobName":"AllJobConsoleExports",
     "parameters":{
    "fileName":"NewFile.csv",
    "excludeApplicationId": "true"
     }
```

Sort Members

Sorts the dimension members of a business process.

You can sort Entity, Account, Scenario, Version, and user-defined custom dimension members. You cannot sort Period, Years, or Currency dimension members. This feature is only supported for the Planning, Module, and Free Form business processes. For more information, see Sorting Members.

For Planning Module applications, you cannot sort these dimensions:

- Any dense dimension
- The "Plan Element" dimension, even if it is renamed, from Financials
- The "Project Element" dimension, even if it is renamed, from Projects

After sorting members, administrators must perform a cube refresh.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-28 Parameters

Name	Description	Required	Default
`jobType`	Sort Members	Yes	None
`jobName`	The job name to be used for this job execution. **Example:** SortEntity	No	Sort Members
`member`	Parent member whose children or descendants are being sorted.	Yes	None
`order`	Order of sorting. Possible values are: • `ascending` • `descending`	No	ascending

Table 8-28 (Cont.) Parameters

Name	Description	Required	Default
`type`	Sort children or descendants. Possible values are: • `children` - sorting by children affects only members in the level immediately below the specified member • `descendants` - sorting by descendants affects all descendants of the specified member.	No	children

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example 1: Sorts the child members of the Account dimension in ascending order.

```
{
    "jobType":   "Sort Members",
    "jobName":  "SortAccount",
    "parameters":
    {
    "member":"Account"
    }
}
```

Example 2: Sorts the child members of the Account dimension in descending order.

```
{
    "jobType":   "Sort Members",
    "jobName":  "SortAccountDesc",
    "parameters":
    {
    "member":"Account", "order":"descending"
    }
}
```

Example 3: Sorts the descendants of member account200 in descending order.

```
{
    "jobType":   "Sort Members",
    "jobName":  "SortAccount200Desc",
    "parameters":
    {
    "member":"account200", "order":"descending", "type":"descendants"
    }
}
```

Import Exchange Rates

Export the Exchange Rates template in the Planning repository and change the rates if required. You can then import the rates into the application using the Import Exchange Rates settings specified in a Planning job of type import exchange rates. For more information, see Job Types.

You can also override some of the parameters of the job definition while executing this job from a REST API.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-29 Import Exchange Rates

Name	Description	Required	Default
`jobType`	`Import Exchange Rates` or `IMPORT_EXCHANGE_RATES` (both parameters are supported)	Yes	None

Table 8-29 (Cont.) Import Exchange Rates

Name	Description	Required	Default
`jobName`	The name of the job to be used for this job execution. **Important**: You must use the exact name of a job that is already defined in Planning as described in Managing Jobs. **Example**: `importNewExchangeRate`	Yes	None
`importFileName`	Optionally, you can specify the name of the CSV file from which exchange rates are to be imported. If you specify a file name, the Import Exchange Rate file name in the job is ignored.	No	The source file of the job definition
`includeMetaData`	You can override the option to include metadata. Allowed value is `true` or `false`.	No	Include Metadata parameter of the job definition

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example 1: Executes the import exchange rates job `MyExchangeRates` and overrides the `importFileName` parameter.

```
{"jobType":"Import Exchange Rates","jobName":"MyExchangeRates",
 "parameters":{
     "importFileName":"ExportExchangeRatesTemplate.csv"
     }
}
```

Example 2: Executes the import exchange rates job `MyExchangeRates` and overrides the `importFileName` and `includeMetaData` parameters.

```
{"jobType":"Import Exchange Rates","jobName":"MyExchangeRates",
 "parameters":{
     "importFileName":"ExchangeRateTemplate2.csv",
     "includeMetaData":"false"
```

```
        }
}
```

Auto Predict

Schedule predictions using the Auto Predict job. With Auto Predict, administrators can define a prediction to predict future performance based on historical data and schedule a job to run that prediction definition, automating the prediction process. For details about Auto Predict, see Setting Up Predictions to Run Automatically in *Administering Planning*.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Job Types.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-30 Import Exchange Rates

Name	Description	Required	Default
`jobType`	`Auto Predict`	Yes	None
`jobName`	The name used to define Auto Predict in the user interface in Overview, then Actions, and then Auto Predict. This name will be used for the job execution. **Important**: You must use the exact name of a job that is already defined in Planning as described in Managing Jobs. **Example**: `Prediction1`	Yes	None

Table 8-30 (Cont.) Import Exchange Rates

Name	Description	Required	Default
`forceRun`	If this is set to `true`, the job will always execute. If not, the job executes only for the first time. In subsequent attempts, if there is no change in the job definition, this message displays: "Auto Prediction definition hasn't changed since the last time the Auto Predict job ran; the job will not execute. If you want to run the Auto Predict definition, for example if there are new actual values, you can run the Auto Predict definition from the Auto Predict page. From the Actions menu, click Actions and then click Run."	No	False
`paginatedDim`	Speeds up an Auto Predict job by running predictions in parallel in separate prediction threads. For the parallel jobs to be efficient, choose a dimension that will result in evenly spread data for each prediction thread. Example: Entity	No	False

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload

Example 1: Executes the Auto Predict job `ASO->BSO`.

```
{
    "jobType": "Auto Predict",
    "jobName": "ASO->BSO",
    "parameters": {
        "forceRun": true,
        "paginatedDim": "Entity"
```

```
    }
}
```

Import Cell-Level Security

This REST API imports cell-level security settings from a ZIP file that contains an Excel file with cell-level security definitions into Planning or Tax Reporting business processes. Cell-level security enables Service Administrators to restrict who can view data in the application by defining rules that remove read or write access to cells that a user would normally have access to due to their regular security.

The file must be present in the Inbox. You can use the Upload REST API to upload the file. Any rejected records are generated in an Excel file that is zipped and copied to the Outbox.

The best method to get the import file format template is to export cell-level security from the application.

The following is a general explanation of the Excel file. The file contains two Excel worksheets:

1. `Rules` - contains cell-level security definitions, dimensions included, properties such as Unspecified Valid, and Additional Dims Required
2. `Sub Rules` - contains member selections and exclusions

The `Rules` worksheet has the following column headings:

- **Name**
- **Position**
- **Description**
- **Enabled**
- **Valid Cubes** - This column can contain either `All` or a list of comma-separate names of cubes, such as `Plan1, Plan2`
- **Anchor Dim Name**
- **Anchor Dimension Apply to Unselected Members**
- **Dim1**
- **Dim1 Required**
- **Dim2**
- **Dim2 Required**
- **Dim***X*
- **Dim***X* **Required**

The `Sub Rules` worksheet has the following column headings:

- **Name** - This column must contain the name of the Rules from the first worksheet
- **Users**
- **User Groups**
- **Restriction** - This column can contain `Deny Read` or `Deny Write`

- **Anchor Members**
- **Anchor Exclusion**
- **Dim1 Members**
- **Dim1 Exclusion**
- **Dim2 Members**
- **Dim2 Exclusion**
- **Dim*X* Members**
- **Dim*X* Exclusion**

Required Roles

Service Administrator

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/{application}/
jobs
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For parameters that are common to all jobs, see Execute a Job.

Table 8-31 Import Cell-Level Security

Name	Description	Required	Default
`jobType`	`Import Cell-Level Security` or `IMPORT_CELL_LEVEL_SECURITY`	Yes	None
`jobName`	The name of the job to be used. This job name appears on the job console. **Example**: `ImportCLSPlan1`	No	Import Cell-Level Security Definitions
`fileName`	The name of the ZIP file containing the input Excel file. The file must be present in the Inbox. Before using this REST API, you can use the Upload REST API to upload the file.	Yes	None

Table 8-31 (Cont.) Import Cell-Level Security

Name	Description	Required	Default
`errorFile`	Optionally, create a separate error file for recording any errors that occur during the import process. If this is not specified, an error file is auto-generated with a name containing the user name, current date, and time stamp. For example, `admin_ImportError_2020-02-26-04-34-45-420.txt`. The file containing the error messages is stored in the Outbox. You can download it using the Download API. This API overrides any existing error file with the same name.	No	The file is auto-generated

For a sample URL, see the sample URL and payload in Execute a Job

Example 1: Imports cell-level security records from the input file `ImportCLSRecordsFile.zip`.

```
{
    "jobType": "Import Cell-Level Security",
    "jobName": "ImportCLSJob",
    "parameters": {
        "fileName": "ImportCLSRecordsFile.zip"
    }
}
```

Example 2: Imports cell-level security records from the input file `ImportCLSRecordsFile.zip` and exports the error messages to the file `ImportCLSFileLog.txt`.

```
{
    "jobType": "Import Cell-Level Security",
    "jobName": "ImportCLSJob",
    "parameters": {
        "fileName": "ImportCLSRecordsFile.zip",
        "errorFile": "ImportCLSRecordsFileLog.txt"
    }
}
```

Export Cell-Level Security

This REST API exports cell-level security settings from Planning or Tax Reporting into a ZIP file that contains an Excel file. Cell-level security enables Service Administrators to restrict who can view data in the application by defining rules that remove read or

write access to cells that a user would normally have access to due to their regular security.

The generated file is compressed, and the output is a ZIP file that is added to the Outbox. You can download the file using the Download REST API.

Note the following requirements for the format of the Excel file used with this REST API.

The exported Excel file contains two worksheets with these names:

1. `Rules`
2. `Sub Rules`

The `Rules` worksheet has the following column headings:

- **Name**
- **Position**
- **Description**
- **Enabled**
- **Valid Cubes** - This column contains either `All` or a list of comma-separate names of cubes, such as `Plan1, Plan2`
- **Anchor Dim Name**
- **Anchor Dimension Apply to Unselected Members**
- **Dim1**
- **Dim1 Required**
- **Dim2**
- **Dim2 Required**
- **Dim*X* Members**
- **Dim*X* Required**

The `Sub Rules` worksheet has the following column headings:

- **Name** - This column contains the names of the Rules from the first sheet
- **Users**
- **User Groups**
- **Restriction** - This column can contain `Deny Read` or `Deny Write`
- **Anchor Members**
- **Anchor Exclusion**
- **Dim1 Members**
- **Dim1 Exclusion**
- **Dim2 Members**
- **Dim2 Exclusion**
- **Dim*X* Members**
- **Dim*X* Exclusion**

Required Roles

Service Administrator

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/
{application}/jobs
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For parameters that are common to all jobs, see Execute a Job.

Table 8-32 Export Cell Level Security

Name	Description	Required	Default
`jobType`	`Export Cell-Level Security` or `EXPORT_CELL_LEVEL_SECURITY`	Yes	None
`jobName`	The name of the job to be used. This job name appears on the job console. **Example**: `ExportCLSDPlan1`	No	Export Cell-Level Security Definitions
`fileName`	The name of the ZIP file that will be created to hold the Excel file containing cell-level security information. The file containing the exported data is stored in the Outbox.	Yes	None
`names`	Optionally, include a comma-separated list of cell-level security definitions in the application. Information from each definition is exported to a separate Excel file and then zipped. For example, the list could contain `CLSDAccountPeriod,CLSDEntityPeriod,CLSDProductPeriod.` If this parameter is not provided, all cell-level security records are exported.	No	All records are exported

For a sample URL, see the sample URL and payload in Execute a Job

Example 1: Exports all cell-level security records to the file `ExportCLSDRecordsFile.zip`.

Sample Payload

```
{
    "jobType": "Export Cell-Level Security",
    "jobName": "ExportCellLevelSecurityJob",
    "parameters": {
        "fileName": "ExportCLSDRecordsFile.zip"
    }
}
```

Example 2: Exports three cell-level security records with names `CLSDAccountPeriod`, `CLSDEntityPeriod`, and `CLSDProductPeriod` to the file `Export3CLSDRecordsFile.zip`.

```
{
    "jobType": "Export Cell-Level Security",
    "jobName": "ExportCellLevelSecurityJob",
    "parameters": {
        "fileName": "Export3CLSDRecordsFile.zip",
        "names": "CLSDAccountPeriod,CLSDEntityPeriod,CLSDProductPeriod"
    }
}
```

Import Valid Intersections

This REST API imports valid intersections groups from a ZIP file that contains an Excel file with valid intersection definitions into a Financial Consolidation and Close, Planning, or Tax Reporting business process.

The Excel file must be present in the Inbox. You can use the Upload REST API to upload the file. Any rejected records are generated in an Excel file that is zipped and copied to the Outbox.

The following is a general explanation of the Excel file. The file contains two Excel worksheets:

1. `Rules` - defines the intersection group, dimensions included, and properties such as Unspecified Valid and Additional Dims Required
2. `Sub Rules` - provides member selections and exclusions

The `Rules` worksheet has the following column headings.

- **Name**
- **Position**
- **Description**
- **Enabled**
- **Valid Cubes** - This column can contain either `All` or a list of comma-separate names of cubes, such as `Plan1, Plan2`
- **Anchor Dim Name**
- **Anchor Dimension Apply to Unselected Members**
- **Dim1**

- **Dim1 Required**
- **Dim2**
- **Dim2 Required**
- **Dim*X***
- **Dim*X* Required**

The `Sub Rules` worksheet must have the following column headings:

- **Name** - This column must contain the name of the Rule from the first worksheet
- **Users**
- **User Groups**
- **Restriction** - This column can contain `Deny Read` or `Deny Write`
- **Anchor Members**
- **Anchor Exclusion**
- **Dim1 Members**
- **Dim1 Exclusion**
- **Dim2 Members**
- **Dim2 Exclusion**
- **Dim*X* Exclusion**

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/
{application}/jobs
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For parameters that are common to all jobs, see Execute a Job.

Table 8-33 Import Valid Intersections

Name	Description	Required	Default
`jobType`	`Import Valid Intersections` or `IMPORT_VALID_INTERSECTIONS`	Yes	None

Table 8-33 (Cont.) Import Valid Intersections

Name	Description	Required	Default
`jobName`	The name of the job to be used for this job execution, exactly as it is defined in the application. **Example**: `ImportVIAccountPeriod`	No	Import Valid Intersections
`fileName`	The name of the ZIP file containing the input Excel file. The file must be present in the Outbox. Before using this REST API, you can use the Upload REST API to upload the file.	Yes	None
`errorFile`	Optionally, identify the name of a text file for recording any errors that occur during the import process. If this is not specified, an error file is auto-generated with a name containing the user name, current date, and time stamp. For example, `admin_ImportError_2020-02-26-04-34-45-420.txt`. The file containing the error messages is stored in the Outbox. You can download it using the Download REST API.	No	The file name is auto-generated

For a sample URL, see the sample URL and payload in Execute a Job

Example 1: Imports valid intersections records from the input file `ImportVIRecordsFile.zip`.

```
{
    "jobType": "Import Valid Intersections",
    "jobName": "ImportVIJob",
    "parameters": {
        "fileName": "ImportVIRecordsFile.zip"
    }
}
```

Example 2: Imports valid intersections records from the input file `ImportVIRecordsFile.zip` and exports the error messages to the file `ImportVIRecordsFileLog.txt`.

```
{
    "jobType": "Import Valid Intersections",
    "jobName": "ImportVIJob",
    "parameters": {
        "fileName": "ImportVIRecordsFile.zip",
        "errorFile": "ImportVIRecordsFileLog.txt"
    }
}
```

Export Valid Intersections

This REST API exports valid intersection groups (certain cell intersections filtered by rules when users enter data or select runtime prompts) from Financial Consolidation and Close, Planning, or Tax Reporting business processes.

The output is a ZIP file that is added to the Outbox. You can download the file using the Download REST API.

Note the following requirements for the format of the Excel file used with this REST API.

The exported Excel file contains two worksheets with these names:

1. `Rules`
2. `Sub Rules`

The `Rules` worksheet has the following column headings:

- **Name**
- **Position**
- **Description**
- **Enabled**
- **Anchor Dim Name**
- **Anchor Dimension Apply to Unselected Members**
- **Dim1**
- **Dim1 Required**
- **Dim2**
- **Dim2 Required**
- **Dim***X*
- **Dim***X* **Required**

The `Sub Rules` worksheet has the following column headings:

- **Name** - This column contains the names of the Rules from the first worksheet
- **Anchor Members**
- **Anchor Exclusion**
- **Dim1 Members**
- **Dim1 Exclusion**
- **Dim2 Members**
- **Dim2 Exclusion**
- **Dim***X* **Members**
- **Dim***X* **Exclusion**

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/{application}/
jobs
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For parameters that are common to all jobs, see Execute a Job.

Table 8-34 Export Valid Intersections

Name	Description	Required	Default
`jobType`	`Export Valid Intersections` or `EXPORT_VALID_INTERSECTIONS`	Yes	None
`jobName`	The name of the job to be used. This job name appears on the job console. **Example**: `ExportVIRecords`	No	Export Valid Intersections
`fileName`	The name of the ZIP file that will be created to hold the Excel file containing valid intersection records. The file containing the exported data is stored in the Outbox.	Yes	None
`names`	If provided, exports some of the records using the names in a comma-separated list of valid intersection record names. For example, the list could contain `VIAccountPeriod,VIEntityPeriod,VIProductPeriod`. If this parameter is not provided, all valid intersection records are exported.	No	All records are exported

For a sample URL, see the sample URL and payload in Execute a Job

Sample Payload

Example 1: Exports all valid intersections records to the file `ExportVIRecordsFile.zip`.

```
{
    "jobType": "Export Valid Intersections",
    "jobName": "ExportVIJob",
    "parameters": {
```

```
        "fileName": "ExportVIRecordsFile.zip"
    }
}
```

Example 2: Exports three valid intersection records with names `VIAccountPeriod`, `VIEntityPeriod`, and `VIProductPeriod` to the file `Export3VIRecordsFile.zip`.

```
{
    "jobType": "Export Valid Intersections",
    "jobName": "ExportVIJob",
    "parameters": {
        "fileName": "Export3VIRecordsFile.zip",
        "names": "VIAccountPeriod,VIEntityPeriod,VIProductPeriod"
    }
}
```

Execute a Report Bursting Definition

You can execute bursting for a single report or book for more than one member of a single dimension, and publish a PDF or Excel output for each member.

The bursting definition must be present in the folder that you specify with the `burstingDefinitionName` parameter.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/
{application}/jobs
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For parameters that are common to all jobs, see Execute a Job.

Table 8-35 Execute a Report Bursting Definition

Name	Description	Required	Default
`jobType`	`Execute Bursting Definition` or `EXECUTE_MR_BURST` (both parameters are supported)	Yes	None

Table 8-35 (Cont.) Execute a Report Bursting Definition

Name	Description	Required	Default
`jobName`	The name of the job to be used. This job name appears on the job console. **Example**: `MonthlySalesBurstDev`	No	Execute Bursting Definition
`burstingDefinitionName`	Bursting definition name with the complete path to where the bursting definition is stored. **Example**: `/Library/Jan/MonthlySalesBurstDef`	Yes	None

For a sample URL, see the sample URL and payload in Execute a Job

Sample Payload

Example 1: Executes the bursting definition named `MonthlySalesBurstDev` that is present in the Library folder.

```
{
  "jobType":"Execute Bursting Definition",
  "jobName":"Execute MonthlySalesBurstDef",
  "parameters": {
    "burstingDefinitionName":"Library/MonthlySalesBurstDef"
  }
}
```

Example 2: Executes the bursting definition named `MonthlySalesBurstDev` that is present in the Reports subfolder under the Library folder.

```
{
  "jobType":"Execute Bursting Definition",
  "jobName":"Execute MonthlySalesBurstDef",
  "parameters": {
    "burstingDefinitionName":"Library/Reports/MonthlySalesBurstDef"
}
```

Export Library Documents

Creates a job to copy a documente from the library. The Copy Artifact from Library (Export Library Document) job copies the content of a library document to the default download location, where you can download it to your local computer. Using REST APIs allows you to automate the tasks of exporting documents and downloading them.

You can use the Inbox/Outbox Explorer to view the details of the copied file. Use the Download REST API to download the file.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs. For additional details, see Job Types.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs.

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 8-36 Parameters

Name	Description	Required	Default
`jobType`	Copy Artifact From Library or Export Library Document or COPY_ARTIFACT_FROM_LIBRARY (all values are supported)	Yes	None
`jobName`	The name of this job. **Example:** Copy_Quarterly_Sales	No	`Export Library Document`
`idOrFullyQualifiedName`	The name of the document. This can be the document name with a fully qualified path or UUID.	Yes	None

Table 8-36 (Cont.) Parameters

Name	Description	Required	Default
`saveAsFile`	The output file name, in the default download location, to which the document should be copied. If you don't provide the extension in `saveAsFile`, the file will take the extension from the document being copied. If a file with the same name exists, the job will error out unless the `overwrite` flag is passed as `true`. The default output file name is the name of the document. The extension of the document is used as the extension of the output file name.	No	Name of the document
`overwrite`	If a file with the same name exists in the default download location, the file will not be overwritten by default unless the `overwrite` flag is passed as `true`.	No	`false`

Table 8-36 (Cont.) Parameters

Name	Description	Required	Default
`errorFile`	The error file name, in the default download location, which contains the details (including errors) of the operation. Any existing error file with the same name is overwritten. If you don't provide the extension in `errorFile`, the file will use `.log` as the default extension. Use the Inbox/Outbox Explorer to view the details of the error file. Use the Download REST API to download the file.	No	None
`exportFormat`	The format of the copied document. Allowed values are `file` and `zip`. • `file` - copies the document in its original binary format. For example, if the document is a PDF or Microsoft Word document, it is copied as a PDF or a Microsoft Word document. • `zip` - copies the document in its original binary format and zips it.	No	`file`

For a sample URL, see Sample URL and Payload in Execute a Job.

Sample Payload Example

Copies a document called `WeeklySales.txt`, identified with the complete path of the document, to the default download location and compresses it. The output file name will be `WeeklySales.zip`. If a file with the same name exists in the Inbox/Outbox, the

existing file will be overwritten. An error file with the name `WeeklySalesErrorLog.log` will be created with the details of the activity.

```
{
    "jobType": "COPY_ARTIFACT_FROM_LIBRARY",
    "jobName": "Copy Invalid SKU Q1 List",
    "parameters":
        {
                "artifactName": "Library/folder1/WeeklySales.txt",
                "saveAsFile": "WeeklySales.txt",
                "overwrite": "true",
                "errorFile": "WeeklySalesErrorLog.log",
                "exportFormat": "zip"
       }
}
```

Execute Job Code Samples

Example 8-1 Java Sample – executeJob.java

```
//
// BEGIN - Execute a Job (EXPORT_DATA, EXPORT_METADATA, IMPORT_DATA,
IMPORT_METADATA, CUBE_REFRESH, ...)
//
public void executeJob(String jobType, String jobName, String parameters)
throws Exception {
    String urlString = String.format("%s/HyperionPlanning/rest/%s/
applications/%s/jobs", serverUrl, apiVersion, applicationName);
    JSONObject payload = new JSONObject();
    payload.put("jobName",jobName);
    payload.put("jobType",jobType);
    payload.put("parameters",new JSONObject(parameters));
    String response = executeRequest(urlString, "POST", payload.toString());
    System.out.println("Job started successfully");
    getJobStatus(fetchPingUrlFromResponse(response, "self"), "GET");
}
//
// END - Execute a Job (EXPORT_DATA, EXPORT_METADATA, IMPORT_DATA,
IMPORT_METADATA, CUBE_REFRESH, ...)
//
```

Example 8-2 cURL Sample – ExecuteJob.sh

```
funcExecuteJob() {
    url="$SERVER_URL/HyperionPlanning/rest/$API_VERSION/
applications/$APP_NAME/jobs"
    encodedJobName=$(echo $2 | sed -f urlencode.sed)
    if [ ! -z "$3" ]; then

param="{\"jobType\":\"$1\",\"jobName\":\"$encodedJobName\",\"parameters\":$3}
"
    else
```

```
param="{\"jobType\":\"$1\",\"jobName\":\"$encodedJobName\"}"
    fi
    funcExecuteRequest "POST" $url $param


    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started executing job successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 8-3 Groovy Sample – ExecuteJob.groovy

```
def executeJob(jobType, jobName, parameters) {
    def url = new URL(serverUrl + "/HyperionPlanning/rest/" +
apiVersion + "/applications/" + appName + "/jobs");
        JSONObject payload = new JSONObject();
        try {
            if (parameters != null) {
                    JSONObject params = new JSONObject();
                    def args = parameters.split(';');
                    for (int i = 0; i < args.length; i++) {
                            if (args[i].indexOf("=") != -1) {
                                    String[] param =
args[i].split("=");
                                    if
(param[0].equalsIgnoreCase("clearData")) {

params.put("clearData",Boolean.valueOf(param[1]));
                                    }
                                    else {

params.put(param[0],param[1]);
                                    }
                            }
                    }
                    payload.put("jobName",jobName);
                    payload.put("jobType",jobType);
                    payload.put("parameters",params);
            }
            else {
                    payload.put("jobName",jobName);
                    payload.put("jobType",jobType);
            }
    } catch (MalformedURLException e) {
        println "Malformed URL. Please pass valid URL"
        System.exit(0);
```

```
    }
    response = executeRequest(url, "POST", payload);
    if (response != null) {
        getJobStatus(fetchPingUrlFromResponse(response, "self"), "GET");
    }
}
```

Retrieve Job Status

Polls the server to get the processing state for a job with a specified ID.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

REST Resource

GET `/HyperionPlanning/rest/{api_version}/applications/{application}/jobs/{jobIdentifier}`

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-37 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`applicationName`	The name of the application	Path	Yes	None
`jobIdentifier`	The ID of the job	Path	Yes	None

Response

Parameters

The following table summarizes the response parameters.

Table 8-38 Parameters

Name	Description
`status`	Status of the job: -1 = in progress; 0 = success; 1 = error; 2 = cancel pending; 3 = cancelled; 4 = invalid parameter; Integer.MAX_VALUE = unknown
`details`	Details about the job status, such as "Metadata import was successful" for metadata import
`jobID`	The ID of the job, such as 224

Table 8-38 (Cont.) Parameters

Name	Description
jobName	The name of the job, such as Refresh Database
descriptiveStatus	The status of the job, such as Completed or Error

Supported Media Types: application/json

Example of Response Body

The following shows an example of the response body for metadata import:

```
{
    "status": 0,
    "details": "Metadata import was successful",
    "jobId": 224,
    "jobName": "Import Account Metadata",
    "descriptiveStatus": "Completed",
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/test2/jobs/224",
        "action": "GET"
    }, {
        "rel": "job-details",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/test2/jobs/224/details",
        "action": "GET"
    }]
}
The following shows an example of the response body when an error
occurs during cube refresh:
{
   "status": 1,
    "details": "An error occurred while updating the relational
database.",
    "jobStatus": "Error",
    "jobId": 145,
    "jobName": "Refresh Database",
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/PS4app1/jobs/145",
        "action": "GET"
    }}, {
        "rel": "job-details",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/test2/jobs/145/details",
        "action": "GET"
```

```
    }]
}
```

The following shows an example of the response body when an error occurs during cube refresh:

```
{
   "status": 1,
    "details": "An error occurred while updating the relational database.",
    "jobStatus": "Error",
    "jobId": 145,
    "jobName": "Refresh Database",
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/PS4app1/jobs/145",
        "action": "GET"
    }, {
        "rel": "job-details",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/test2/jobs/145/details",
        "action": "GET"
    }]
}
```

Retrieve Job Status Details

Polls the server to get execution details for a Job with the specified Job ID. The job types for which details are returned by this service are: `IMPORT_DATA`, `EXPORT_DATA`, `EXPORT_METADATA`, and `IMPORT_METADATA`.

Supports paging for jobs of type `IMPORT_DATA`, `IMPORT_METADATA`, `EXPORT_DATA`, and `EXPORT_METADATA` using the offset and limit query parameters shown in the table.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

REST Resource

```
GET     /HyperionPlanning/rest/{api_version}/applications/{application}/jobs/
{jobIdentifier}/details
```

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-39 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with	Path	Yes	None
application	The name of the application	Path	Yes	None
jobIdentifier	The ID of the job, such as 224	Path	Yes	None
q				
msgType	Optionally, return messages for a particular message type. If no messageType is provided, returns messages of types ERROR, WARNING, and INFO.	Query	No	None
offset	For paging of jobs. Indicates the actual index from which the records are returned. It is 0 based.	Query	No	0
limit	For paging for jobs. Controls how many items to return. Defaults to 25 if not specified.	Query	No	25

Example Requests

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs/145/details
```

Optionally specifying messageType:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs/145/details?
q={"messageType":"ERROR"}
```

Optionally specifying paging for jobs of type IMPORT_DATA and EXPORT_DATA with the offset and limit:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs/145/details?
q={"messageType":"ERROR"}&offset=0&limit=5}
```

Response

The following table summarizes the response parameters.

Table 8-40 Parameters

Name	Description
items	Version of the API you are developing with
recordsRead	The name of the application
recordsRejected	The ID of the job for records rejected
recordsProcessed	The ID of the job for records processed
dimensionName	For paging of jobs. Indicates the actual index from which the records are returned. It is 0 based.
loadType	For paging for jobs. Controls how many items to return. Defaults to 25 if not specified.

Supported Media Types: `application/json`

Example of Response Body

The following shows an example of the response body for metadata import with messageType = ERROR:

```
{
    "items": [{
        "links": [{
            "rel": "child-job-details",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/test2/jobs/224/childjobs/12/details?
limit=10&q=%7BmessageType:ERROR%7D&offset=10",
            "action": "GET"
        }],
        "recordsRead": 8,
        "recordsRejected": 0,
        "recordsProcessed": 8,
        "dimensionName": "Entity",
        "loadType": "Metadata Import"
    }, {
        "links": [{
            "rel": "child-job-details",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/test2/jobs/224/childjobs/13/details?
limit=10&q=%7BmessageType:ERROR%7D&offset=10",
            "action": "GET"
        }],
        "recordsRead": 2,
        "recordsRejected": 0,
        "recordsProcessed": 2,
        "dimensionName": "Job",
        "loadType": "Metadata Import"
    }],
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/test2/jobs/224/details?
limit=10&q=%7BmessageType:ERROR%7D&offset=10",
        "action": "GET"
    }],
}
```

Retrieve Child Job Status Details

Certain types of jobs, such as metadata import and export, create child jobs for each dimension being exported or imported. This service can be used to get the execution details for the child Job with the specified ID.

The job types for which child details are returned by this service are `IMPORT_METADATA` and `EXPORT_METADATA`. Supports paging for jobs of type `IMPORT_DATA` and `EXPORT_DATA` using the offset and limit query parameters shown in the table.

Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator

REST Resource

```
GET     /HyperionPlanning/rest/{api_version}/applications/
{application}/jobs/{jobIdentifier}/childjobs/{childJobIdentifier}/
details
```

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-41 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`applicationName`	The name of the application	Path	Yes	None
`jobIdentifier`	The ID of the job, such as 224	Path	Yes	None
`childJobIdentifier`	The ID of the child job	Path	Yes	None
`childJobID`	The ID of the child job, such as 8	Path	Yes	None
`q`				
`messageType`	Optionally, return messages for a particular message type. If no messageType is provided, returns messages of types ERROR, WARNING, and INFO.	Query	Yes	None
`offset`	For paging of jobs. Indicates the actual index from which the records are returned. It is 0 based.	Query	No	0
`limit`	For paging of jobs. Controls how many items to return. Defaults to 25 if not specified.	Query	No	25

Example Requests

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs/145/childjobs/123/
details
```

Optionally specifying messageType:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs/145/ childjobs/123/
details?q={"messageType":"ERROR"}
```

Optionally specifying paging for jobs of type IMPORT_METADATA and EXPORT_METADATA with an offset and limit:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/jobs/145/ childjobs/123/details?
q={"messageType":"ERROR"}&offset=0&limit=5
```

Response

The following table summarizes the response parameters.

Table 8-42 Parameters

Name	Description
items	The number of records read, such as 8
msgType	Message type, such as INFO
msgCategory	Message category, such as Argument parsing
msgText	Message text

Supported Media Types: `application/json`

Example of Response Body

The following example shows a response body with messageType = INFO, offset=5, limit=5. Notice the prev and next links.


```
{
    "items": [{
        "msgType": "INFO",
        "msgCategory": "Argument parsing",
        "msgText": "The column alias mapping list specified with the /C2A
switch did not match a key in the Command Properties file \"null\" so it
will be used as the mapping directly: \"(<ignoreUndefined>,@Plan*)\"."
    }, {
        "msgType": "INFO",
        "msgCategory": "Unclassified",
        "msgText": "Header record fields: Entity, Parent, Alias: Default,
Alias: SLAliases, Valid For Consolidations, Data Storage, Two Pass
Calculation, Description, Formula, UDA, Smart List, Data Type, Hierarchy
Type, Enable for Dynamic Children, Number of Possible Dyn..."
    }, {
        "msgType": "INFO",
        "msgCategory": "Dimension, member, or cube retrieval",
        "msgText": "Located and using \"Entity\" dimension for loading data
in \"Test2\" application."
    }, {
        "msgType": "INFO",
        "msgCategory": "Unclassified",
        "msgText": "HspOutlineLoad::dateFormatSpecified is true,
SessionHalDateFormat stored on session: M/d/yy, sessionId: 759992870"
    }, {
        "msgType": "INFO",
        "msgCategory": "Dimension, member, or cube retrieval",
        "msgText": "Load dimension \"Entity\" has been unlocked
successfully."
    }],
    "links": [{
```

```
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/test2/jobs/224/childjobs/12/details?
limit=5&offset=5",
        "action": "GET"
    }, {
        "rel": "prev",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/test2/jobs/224/childjobs/12/details?
offset=0&limit=5",
        "action": "GET"
    }, {
        "rel": "next",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/test2/jobs/224/childjobs/12/details?
offset=10&limit=5",
        "action": "GET"
    }],
}
```

Working with Members

You can get and add members using a set of REST resources, as summarized below.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 8-43 Working with Members

Task	Request	REST Resource
Add Member	POST	`/HyperionPlanning/rest/{api_version}/applications/{application}/dimensions/{dimensionname}/members`
Get Member	GET	`/HyperionPlanning/rest/{api_version}/applications/{application}/dimensions/{dimension}/members/{member}`

Add Member

Adds a new member to the application outline in the specified dimension and plan type and under the specified parent member.

> **Note:**
>
> **Prerequisite**: The parent member must be enabled for dynamic children and a cube refresh must have happened after the parent was enabled.

Required Roles

Service Administrator

REST Resource

`POST /HyperionPlanning/rest/{api_version}/applications/{application}/dimensions/{dimname}/members`

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-44 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application to which to add a member	Path	Yes	None
`dimname`	Name of the dimension to which to add a member	Path	Yes	None

Example URL and Payload

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/applications/Vision/dimensions/Entity/members`

```
{"memberName":"North America","parentName":"Enterprise Global"}
```

Response

Payload Parameters:

The following table summarizes the payload parameters.

Table 8-45 Parameters

Name	Description
`name`	Name of the member, such as North America
`children`	Whether the member has children
`description`	Description of the member
`parentName`	Name of the parent, such as Enterprise Global
`dataType`	Data type, if available
`objectType`	Type of object
`dataStorage`	Storage attribute for the member, such as STOREDATA
`dimName`	Dimension name
`twoPass`	Boolean value to indicate whether the member has the Two-Pass Calculation associated attribute
`instance`	Information about the instance
`type`	Type of member

Table 8-45 (Cont.) Parameters

Name	Description
detail	Detailed information in case of error
status	Request status, such as 400
errorPath	Path of the error, if available
title	Error title, if available
errorCode	Error code, if available
errorDetails	Error details, if available
message	Message text
localizedMessage	Localized message, if available

Example of Response Body

Sample response body where the member is added successfully

```
{
    "name": "North America",
    "children": null,
    "description": null,
    "parentName": "Enterprise Global",
    "dataType": "UNSPECIFIED",
    "objectType": 33,
    "dataStorage": "STOREDATA",
    "dimName": "Entity",
    "twoPass": false,
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/Vision/dimensions/Entity/members/North%20America",
        "action": "GET"
    }]
}
```

Sample response when an error occurs when adding the member:

```
{
    "detail": "Error occurred adding member. Unable to find parent
<Enterprise GlobalX> defined for a dynamic member.",
    "status": 400,
    "message": "com.hyperion.planning.HspRuntimeException: Error
occurred adding member. Unable to find parent <Enterprise GlobalX>
defined for a dynamic member.",
    "localizedMessage": "com.hyperion.planning.HspRuntimeException:
Error occurred adding member. Unable to find parent <Enterprise
GlobalX> defined for a dynamic member."
}
```

Get Member

Gets the specified member's properties.

Required Roles

Service Administrator

REST Resource

```
GET /HyperionPlanning/rest/{api_version}/applications/{application}/dimensions/
{dimname}/members/{member}
```

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-46 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application for which to get member properties	Path	Yes	None
`dimname`	Name of the dimension for which to get member properties	Path	Yes	None
`member`	Name of the member for which to get member properties	Path	Yes	None

Request Payload:

The following table summarizes the payload parameters.

Table 8-47 Parameters

Name	Description
`name`	Name of the member, such as North America
`children`	Whether the member has children
`description`	Description of the member
`parentName`	Name of the parent, such as Enterprise Global
`dataType`	Data type, if available
`objectType`	Type of object
`dataStorage`	Storage attribute for the member, such as STOREDATA
`dimName`	Dimension name
`twoPass`	Boolean value to indicate whether the member has the Two-Pass Calculation associated attribute

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/dimensions/Entity/North
America

{"memberName":"North America","parentName":"Enterprise Global"}
```

Example of Response Body

Sample response body where the member is added successfully

```
{
    "name": "North America",
    "children": null,
    "description": null,
    "parentName": "Enterprise Global",
    "dataType": "UNSPECIFIED",
    "objectType": 33,
    "dataStorage": "STOREDATA",
    "dimName": "Entity",
    "twoPass": false,
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/Vision/dimensions/Entity/members/North%20America",
        "action": "GET"
    }]
}
```

Get Applications

This REST API returns a list of applications to which the specified user is assigned.

Required Roles

Service Administrator

REST Resource

```
GET /HyperionPlanning/rest/{api_version}/applications
```

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-48 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None

Response

Supported Media Types: `application/json`

Parameters:

Table 8-49 Parameters

Name	Description
`Items`	A list of applications
`name`	Application name
`type`	Product type. Possible values: HFM, HP
`adminMode`	Indicates if the application's login level is set to Administrators. Returns a Boolean value where `true` indicates that the login level for the application is set to Administrators and `false` indicates that the login level is set to All Users.

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "type": "HP",
    "items": [
        {
            "appType": "PBCS",
            "webBotDetails": "null",
            "helpServerUrl": "https://www.oracle.com",
            "workpaceServerUrl": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com",
            "appStorage": "Multidim",
            "adminMode": false,
            "unicode": true,
            "name": "Vision",
            "type": "HP"
        }
    ],
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications",
            "action": "GET"
        }
    ]
}
```

Manage Planning Units

You can manage planning units using a set of REST resources, as summarized here.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

For detailed information on managing planning units, see Managing Approvals.

Note: The manage planning unit resources use the parameters `puIdentifier` and `puhIdentifier`:

- `puIdentifier`: Planning unit identifier
- `puhIdentifier`: Planning unit hierarchy identifier

Use the following format for these parameters:

- `puIdentifier`:

  `"scenarioName"::"versionName"::"pmMember"`

- `pmMember`:

  `"Entity: SecondaryMember"`

- `puhIdentifier`

  `"scenarioName"::"versionName"`

Table 8-50 Managing Planning Units

Task	Request	REST Resource
List All Planning Units	POST	`/HyperionPlanning/rest/{version}/applications/{application}/planningunits?q={"scenario":"scenarioName","version":"versionName"}&offset=10&limit=10`
Get Planning Unit History and Annotations	GET	`/HyperionPlanning/rest/{api_version}/applications/{application}/planningunits?q={"scenario":{"scenario"},"version":{"version"}}&offset={offset}&limit={limit}`
Get a Planning Unit Owner Photo	GET	`/HyperionPlanning/rest/{api_version}/applications/{application}/users/{userId}/photo`
Get Planning Unit Promotional Path	GET	`/HyperionPlanning/rest/{api_version}/applications/{application}/planningunits/{puIdentifier}/promotionpath`
Get Available Planning Unit Actions	GET	`/HyperionPlanning/rest/{api_version}/applications/{applicationName}/planningunits{puhIdentifier}/availableactions`
Get Filters with All Possible Values	GET	`/HyperionPlanning/rest/{api_version}/applications/{application}/pufilters`
Change Planning Unit Status	POST	`/HyperionPlanning/rest/{api_version}/applications/{application}/planningunits/{puhIdentifier}/actions`

List All Planning Units

You can use REST APIs to return a list of planning units for the specified application and owned by the user initiating the REST API. (Note that this does not return all planning units for all applications and users.)

Paging is supported if the optional offset and limit parameters are provided.

Required Roles

Service Administrator

REST Resource

```
POST
```

```
/HyperionPlanning/rest/{version}/applications/{application}/planningunits?
q={"scenario":"scenarioName","version":"versionName"}&offset=10&limit=10
```

Request

Supported Media Types: `application/x-www-form-urlencoded`

Parameters:

The following table summarizes the client request.

Table 8-51 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`q`	Paging options for planning units. Possible values are described in the following rows.	Query	No	Limit = 25
`scenario`	Scenario for the application; required	Query	No	None
`version`	Version for the application; required	Query	No	None
`offset`	Indicates the actual index from which the records are returned; 0 based.	Query	No	1
`limit`	Controls how many items to return; defaults to 25 if not specified.	Query	No	25

Request Payload:

The following table summarizes the payload parameters.

Table 8-52 Parameters

Name	Description	Type	Required
`filter`	Name, type, and values to filter on. Example: `filter={name:"SubStatus",type:3,values:[0,4]}`	Payload	No

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/{version}/applications/{application}/planningunits?
q={"scenario":"scenarioName","version":"versionName"}&offset=10&limit=10
```

Example without filters:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/planningunits?
q={"scenario":"Forecast","version":"BU Version_1"}
```

Example with two filters, multiple values provided:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/planningunits?
q={"scenario":"Forecast","version":"BU Version_1"}
```

Payload:

```
filter={name:"Status",type:4,values:
[2,5]}&filter={name:"SubStatus",type:3,values:[0,4]}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 8-53 Parameters

Name	Description
`name`	Planning unit name, such as Marketing
`value`	Planning unit value
`owner`	Planning unit owner, such as Admin
`version`	Planning unit version, such as BU Version_1
`entity`	Planning unit entity, such as Marketing
`status`	Planning unit status, such as Under Review
`scenario`	Planning unit scenario, such as Forecast
`Formatted value`	Formatted value, if any
`puName`	Planning unit name, such as Marketing
`subStatus`	Planning unit substatus
`secMember`	Secondary dimension member, if any
`puAlias`	Planning unit alias, such as Marketing
`versionAlias`	Version alias, if any

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "items": [{
        "name": null,
        "value": -1.0,
```

```
            "owner": "admin",
            "version": "BU Version_1",
            "entity": "Marketing",
            "status": "Under Review",
            "scenario": "Forecast",
            "formattedValue": "",
            "puName": "Marketing",
            "subStatus": "",
            "secMember": null,
            "puAlias": "Marketing",
            "scenarioAlias": null,
            "versionAlias": null,
            "puId": 50410,
            "links": [{
                "rel": "promotion-path",
                "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/PS4app1/planningunits/
%22Forecast%22::%22BU%20Version_1%22::%22Marketing%22::%22%22/promotionpath",
                "action": "GET"
            }, {
                "rel": "annotations-and-history",
                "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/PS4app1/planningunits/
%22Forecast%22::%22BU%20Version_1%22::%22Marketing%22::%22%22/
historyandannotations?q=%7B%22annotSeq%22:-1,%22logSeq%22:-1%7D",
                "action": "GET"
            }, {
                "rel": "actions",
                "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/PS4app1/planningunits/%22Forecast%22::%22BU%20Version_1%22/
actions",
                "action": "POST",
                "data": {
                    "pmMembers": "Marketing"
                }
            }, {
                "rel": "change-status",
                "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/PS4app1/planningunits/
%22Forecast%22::%22BU%20Version_1%22::%22Marketing%22::%22%22/actions/6",
                "action": "POST",
                "data": {
                    "pmMembers": "Marketing",
                    "comments": "comments"
                }
            }]
        }],
        "links": [{
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
```

```
applications/PS4app1/planningunits?
q=%7Bscenario:%22Forecast%22,version:%22BU+Version_1%22%7D",
        "action": "POST",
        "data": {
            "filter": [{
                "name": "Status",
                "type": 4,
                "values": [2, 5],
                "defIndex": 0
            }, {
                "name": "SubStatus",
                "type": 3,
                "values": [0, 4],
                "defIndex": 0
            }]
        }
    }],
    "type": "HP"
}
```

Get Planning Unit History and Annotations

You can use REST APIs to return a merged list of history and annotations for the planning unit that the requesting user owns for the specified Scenario, Version, and PM Member.

If both `annotSeq` and `logSeq` are < 0, parent level nodes are returned. If `annotSeq` or `logSeq` is provided, the replies to that annotation or history are returned respectively.

If both `annotSeq` and `logSeq` are < 0, parent level nodes are returned. If `annotSeq` or `logSeq` is provided, the replies to that annotation or history are returned respectively.

Required Roles

Service Administrator

REST Resource

```
POST /HyperionPlanning/rest/{api_version}/applications/{application}/
planningunits/{puIdentifier}/historyandannotations?
q={annotSeq=-1,logSeq=-1}&offset=10&limit=10
```

Request

Supported Media Types: `application/x-www-form-urlencoded`

Parameters:

The following table summarizes the client request.

Table 8-54 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None

Table 8-54 (Cont.) Parameters

Name	Description	Type	Required	Default
scenario	Scenario for the application; required	Path	Yes	None
version	Version for the application; required	Path	Yes	None
pmMember	Entity; secondary member	Path	Yes	None
offset	Indicates the actual index from which the records are returned; 0 based.	Query	No	1
limit	Controls how many items to return; defaults to 25 if not specified.	Query	No	25

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/planningunits/Forecast::"BU
Version_1"::Marketing::/historyandannotations?q={annotSeq:-1,logSeq:-1}
```

`Filter` can include name, type, and values to filter on. For example:
`filter={name:"SubStatus",type:3,values:[0,4]}`

Response

Supported Media Types: `application/x-www-form-urlencoded`

Parameters:

Table 8-55 Parameters

Name	Description
comment	Comment entered by the planning unit owner when performing an action
hasHistory	True if the planning unit has history
logSeq	Sequence of the action performed on the planning unit
staticImage	Whether a static image exists for this note
authorImagePath	The path to the user image for the user who performed the action
commentTitle	The author name and the action the author performed
commentDate	The date when the action was performed or the annotation was added
commentSubTitle	Processing state of the planning unit when the action was performed
parentAnntSeq	Sequence of the annotation or the parent annotation added to the planning unit
isChildNode	`true` if this is a reply to an annotation

Example of Response Body

The following shows an example of the response body in JSON format.


```
{
    "items": [{
        "comment": "Enough justification provided, Approving it.<p></
p>",
        "hasHistory": false,
        "logSeq": -1,
        "staticImage": true,
        "authorImagePath": "/Images/GhostUser.png",
        "commentTitle": "admin",
        "commentDate": "8/22/14 3:41 PM",
        "commentSubTitle": "",
        "parentAnntSeq": 1,
        "isChildNode": false,
        "links": [{
            "rel": "annotation-replies",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/PS4app1/planningunits/
%22Forecast%22::%22BU%20Version_1%22::%22Marketing%22::/
historyandannotations?q=%7B%22annotSeq%22:1,%22logSeq%22:-1%7D",
            "action": "GET"
        }]
    }, {
        "comment": "",
        "hasHistory": true,
        "logSeq": 2,
        "staticImage": true,
        "authorImagePath": "/Images/GhostUser.png",
        "commentTitle": "Originate by admin",
        "commentDate": "4/22/14 12:26 PM",
        "commentSubTitle": "Under Review",
        "parentAnntSeq": -1,
        "isChildNode": false,
        "type": "HP",
        "links": [{
            "rel": "annotation-replies",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/PS4app1/planningunits/
%22Forecast%22::%22BU%20Version_1%22::%22Marketing%22::/
historyandannotations?q=%7B%22annotSeq%22:-1,%22logSeq%22:2%7D",
            "action": "GET"
        }]
    }, {
        "comment": "",
        "hasHistory": true,
        "logSeq": 1,
        "staticImage": true,
        "authorImagePath": "/Images/GhostUser.png",
        "commentTitle": "Originate by admin",
        "commentDate": "4/22/14 12:26 PM",
        "commentSubTitle": "Under Review",
        "parentAnntSeq": -1,
```

```
        "isChildNode": false,
        "type": "HP",
        "links": [{
            "rel": "annotation-replies",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/PS4app1/planningunits/
%22Forecast%22::%22BU%20Version_1%22::%22Marketing%22::/
historyandannotations?q=%7B%22annotSeq%22:-1,%22logSeq%22:1%7D",
            "action": "GET"
        }]
    }],
"type": "HP",
"links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/PS4app1/planningunits/
%22Forecast%22::%22BU%20Version_1%22::%22Marketing%22::%22%22/
historyandannotations?q=%7B%22annotSeq%22:-1,%22logSeq%22:-1%7D",
        "action": "GET"
    }],
        "type": "HP",

}
```


Get a Planning Unit Owner Photo

You can use REST APIs to get an image for the requested planning unit owner if a photo is uploaded for the owner.

Required Roles

Service Administrator

REST Resource

`GET /HyperionPlanning/rest/{api_version}/applications/{application}/users/{userId}/photo`

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-56 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None

Table 8-56 (Cont.) Parameters

Name	Description	Type	Required	Default
`userID`	The identifier of the user for whom to retrieve a photo	Path	Yes	

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/applications/PS4app1/users/5000100/photo`

Response

Supported Media Types: In case of success, returns `application/octet-stream`. In case of error, returns `application/json`.

Error Response:

Table 8-57 Parameters

Name	Description
`detail`	Detail about the status of the planning unit photo for this user. For example: `PU photo not available, make sure that a valid user identifier is provided.`
`status`	HTTP status, such as 400.
`message`	Informational message about the status of the photo for this user.
`localizedMessage`	A localized informational message about the status.

Example of Error Response Body

The following shows an example of the response body in JSON format.

```
{
    "detail": "PU photo not available, make sure the a valid user
identifier is provided.",
    "status": 400,
    "message": "java.lang.RuntimeException: PU photo not available,
make sure the a valid user identifier is provided.",
    "localizedMessage": "java.lang.RuntimeException: PU photo not
available, make sure the a valid user identifier is provided."
}
```

Get Planning Unit Promotional Path

You can use REST APIs to get a list of promotion path nodes for a given application, user, and planning unit. The planning unit is identified by the provided scenario, version, and PM member.

The list can have up to three nodes: the node before the current location, the node at the current location, and the one after the current location. If the planning unit is at the starting location or the last location in the path, only two nodes are returned.

Required Roles

Service Administrator

REST Resource

GET `/HyperionPlanning/rest/{api_version}/applications/{application}/planningunits{puIdentifier}/promotionpath`

Request

Parameters:

The following table summarizes the client request.

Table 8-58 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`puIdentifier`	The name of the planning unit, such as Sales	Path	Yes	None

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/applications/PS4app1/planningunits/Forecast::"BU Version_1"::Dev/promotionpath`

Response

Supported Media Types: `application/json`

Parameters:

Table 8-59 Parameters

Name	Description
`Items`	Planning unit promotional path information
`name`	Name of the planning unit
`ownerType`	Planning unit owner type
`group`	Returns whether the owner is a group of users or an individual users, true or false
`staticImage`	Returns whether the image is a static manage, true or false
`nodeImagePath`	Path to the planning unit owner photo
`ownerName`	Name of the planning unit owner
`currentLoc`	Returns if this is the current location of the planning unit, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "items": [{
        "name": "ent_111: Regular Coke",
        "ownerType": 0,
        "group": false,
        "staticImage": true,
        "nodeImagePath": "../ui_themes/tadpole/images_product/pm/75X89/
PUOwner.png",
        "ownerName": "Planner1",
        "currentLoc": true
    }, {
        "name": "Total Entity",
        "ownerType": 0,
        "group": false,
        "staticImage": false,
        "nodeImagePath": "v3/applications/PS4app1/puphoto?
appOwner=50001",
        "ownerName": "admin",
        "currentLoc": false
    }],
    "links": [{
        "rel": "self",
        "href": "hhttps://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/PS4app1/planningunits/
Forecast::%22BU%20Version_1%22::Dev/promotionpath",
        "action": "GET"
    }],
}
```

Get Available Planning Unit Actions

You can use REST APIs to return a list of the next set of applicable actions available for the planning units, consisting of the specified scenario, version, and PM Members (Entity: Secondary member) that are owned by the requesting user.

Required Roles

Service Administrator

REST Resource

```
POST

/HyperionPlanning/rest/{api_version}/applications/{application}/
planningunits{puhIdentifier}/availableactions
```

Request

Parameters:

The following table summarizes the client request.

Table 8-60 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with	Path	Yes	None
application	The name of the application	Path	Yes	None
puIdentifier	The name of the planning unit, such as Sales	Path	Yes	None
q	Optionally, return limited or full approvals functionality. Options are listed here.	Query	No	None
0	Returns limited approvals functionality - useful for mobile clients	Query	No	None
1	Returns full approvals functionality; default is 1.	Query	No	None

URL and Payload Examples

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/planningunits/Forecast::"BU
Version_1"/availableactions?q={"options":1}
```

Payload examples:

```
pmMembers=pmMemberNames
```

```
pmMembers=Dev,Marketing
```

Response

Supported Media Types: `application/json`

Parameters:

Table 8-61 Parameters

Name	Description
Items	Planning unit available actions
actionId	ID of the action
Name	Name of the action

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "items": [{
        "actionId": 6,
        "name": "Promote"
    }, {
        "actionId": 3,
        "name": "Sign Off"
    }, {
        "actionId": 1,
        "name": "Reject"
    }, {
        "actionId": 7,
```

```
            "name": "Delegate"
        }, {
            "actionId": 8,
            "name": "Take Ownership"
        }, {
            "actionId": 9,
            "name": "Originate"
        }, {
            "actionId": 10,
            "name": "Freeze"
        }],
        "links": [{
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/PS4_HP2/planningunits/
Current::%22BU%20Version_1%22/availableactions?q=%7Boptions:1%7D",
            "action": "GET",
            "data": {
                "pmMembers": "ent_111: Regular Coke"
            }
        }],
}
```

Get Filters with All Possible Values

Returns all filter types with all possible values by which users can filter planning units for a given application. For every value, there is a label (in the client locale) representation and an integer value. The labels are shown to end users to pick from, but whenever possible, the client should submit the integer value that is unique to the server. Every application supports several types of filters that are indicated by the type field.

Name is optional. The `defIndex` is the index in the value array for the default selection value.

Required Roles

Service Administrator

REST Resource

```
GET /HyperionPlanning/rest/{api_version}/applications/{application}/
pufilters
```

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-62 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with	Path	Yes	None
application	The name of the application	Path	Yes	None
q	Optionally, return filters for limited or full functionality. Options are listed here.	Query	No	None
0	Returns filters for limited Approvals functionality - useful for mobile clients.	Query	No	None
1	Returns filters for full Approvals functionality; default is 1.	Query	No	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/pufilters?q={"options":"0"}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 8-63 Parameters

Name	Description
Names	Planning unit available actions
aliases	Aliases for values to be displayed instead of labels if user preference is defined as such
name	Name for the filter
type	Type of the filter
values	Integer values; usually the client will submit this value to indicate the selected filter
labels	Labels for values to be displayed in the client for the filter
defIndex	Index of the value to be displayed as the default value

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "items": [{
        "aliases": ["Forecast"],
        "name": "Scenarios",
        "type": 1,
        "values": [50218],
        "labels": ["Forecast"],
        "defIndex": 0
    }, {
        "aliases": ["BU Version_1"],
```

```
            "name": "Versions",
            "type": 2,
            "values": [1500],
            "labels": ["BU Version_1"],
            "defIndex": 0
        }, {
            "aliases": null,
            "name": "SubStatus",
            "type": 3,
            "values": [0, 1, 2, 3, 4, 10008, 10009, 10000],
       "labels": ["", "Processing", "Aborted", "Validating", "No
Additional Approval Required", "Invalid Data", "Additional Approval
Required", "Failed"],
            "defIndex": 0
        }, {
            "aliases": null,
            "name": "Status",
            "type": 4,
            "values": [2, 3, 4, 5, 6],
            "labels": ["Under Review", "Approved", "Signed Off", "Not
Signed Off", "Frozen"],
            "defIndex": 0
        }],
        "links": [{
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/PS4app1/pufilters?q=%7Boptions:%220%22%7D",
            "action": "GET"
        }],
    }
```


Change Planning Unit Status

You can use REST APIs to change the status of the planning units consisting of the specified scenario, version, and PM Members (Entity: Secondary member) that are owned by the requesting user.

An error will display if the planning units belong to same hierarchy but different levels, or if the statuses for the planning units are not the same.

Supported actions for limited approvals functionality are: "PROMOTE" (6), "SIGN_OFF" (3), "APPROVE" (2), "DELEGATE" (7), "TAKE_OWNERSHIP" (8), "ORIGINATE" (9), "FREEZE" (10)

Required Roles

Service Administrator

REST Resource

```
POST /HyperionPlanning/rest/{api_version}/applications/{application}/
planningunits/{puhIdentifier}/actions
```

Request

Supported Media Types: `application/x-www-form-urlencoded`

Parameters:

The following table summarizes the client request.

Table 8-64 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/planningunits/Forecast::"BU
Version_1"/actions
```

Payload

```
actionId=actionId&pmMembers=pmMemberNames&comments=comments
```

Response

Supported Media Types: `application/json`

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/PS4app1/planningunits/Forecast::%22BU%20Version_1%22/actions",
        "action": "POST",
        "data": {
            "pmMembers": "\"Dev\"",
            "action": "PROMOTE",
            "comments": "\"Promoting the PU\""
        }
    }]
}
```

Get User Preferences

Returns the requesting user's display preferences.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Required Roles

Service Administrator

REST Resource

```
GET /HyperionPlanning/rest/{api_version}/applications/{application}/
userpreferences
```

Request

Parameters:

The following table summarizes the client request.

Table 8-65 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`userpreferences`	The requesting user's display preferences	path	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/PS4app1/userpreferences
```

Response

Supported Media Types: `application/json`

Table 8-66 Parameters

Name	Description
`decimal separator`	Preference for decimal separator
`scale`	Preference for scale
`thousandsSeparator`	Preference for the thousands separator
`thousandsSeparator`	Preference for the style of negative numbers
`negativeStyle`	Preference for the minimum precision
`minPrecision`	Preference for the minimum precision
`maxPrecision`	Preference for the maximum precision
`showPUAlias`	Preference for showing the planning unit alias
`currSymbol`	Preference for the currency symbol
`type`	The type of application, such as HP

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "decimalSeparator": "",
```

```
    "scale": 0,
    "thousandsSeparator": "",
    "negativeStyle": 255,
    "minPrecision": 0,
    "maxPrecision": 0,
    "showPUAlias": false,
    "currSymbol": "",
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/PS4app1/userpreferences",
        "action": "GET"
    }]
}
```

Working with Data Slices

You can import, export, and clear data slices, as summarized here. Note that attribute dimensions are not supported in the payload.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 8-67 Working with Data Slices

Task	Request	REST Resource
Import Data Slice	POST	`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/importdataslice`
Export Data Slice	POST	`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/exportdataslice`
Clear Data Slice	POST	`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/cleardataslice`

Import Data Slices

Can be used to import data given a JSON data grid with a point of view, columns, and one or more data rows. Data will be imported only for cells that the user has read-write access to. Imports data of types Text, Date and Smart List along with numeric data. Returns JSON with details on the number of cells that were accepted, the number of cells that were rejected, and the first 100 cells that were rejected. You can set custom parameters to view rejected cells to understand the reason for the rejection.

Required roles

Service Administrator

REST Resource

```
POST /HyperionPlanning/rest/{api_version}/applications/{application}/
plantypes/{plantype}/importdataslice
```

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-68 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application for which to import the data slice	Path	Yes	None
`plantype`	Name of the plan type for which to import the data slice	Path	Yes	None

Example URL and Payload:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/plantypes/plan1/
importdataslice
```

Payload Parameters

The Payload is JSON with the following parameters.

Table 8-69 Parameters

Name	Description
`dataGrid`	JSON data grid
`aggregateEssbaseData`	True or false. If true, the values being saved will be added to the existing values. Only numeric values can be aggregated. Cells with Smart list, Text and Date data types will be rejected. If false, the data values will be overwritten. A value of "#missing" will clear the cell value as shown in the example. The default is false. **Note**: Values provided in the "data" section of the JSON payload will be used even for cells with supporting details provided. For cells with supporting details, make sure the total calculated for the incoming supporting details matches the value provided in the row "data" section. See the following table for examples.

Table 8-69 (Cont.) Parameters

Name	Description
`cellNotesOption`	Possible values are: "Overwrite", "Append", and "Skip". • "Overwrite": The existing cell notes will be overwritten. An empty array for cell notes [] will indicate deletion of existing cell notes. A value of "null" will leave the existing cell notes intact. • "Append": New cell notes will be appended to existing cell notes. • "Skip": Cell notes will not be processed.
`dateFormat`	Date format used in the input data grid. Valid formats are: "MM-DD-YYYY", "DD-MM-YYYY", "YYYY-MM-DD", "MM/DD/YYYY", "DD/MM/YYYY", "YYYY/MM/DD"
`strictDateValidation`	Optionally, influence how Date cell values are validated. When set to `true`, date values are validated against the `dateFormat` specified in the payload and are rejected if the format for the value does not conform to the `dateFormat`. If set to `false`, date values are interpreted more leniently. Default is `true`.
`customParams`	
`PostDataImportRuleNames`	Optionally, provide the post data import rule names. This is primarily used by Data Management for planners. Default is `false`.
`includeRejectedCells`	Optionally, indicate if the response should include the first 100 rejected cells. Default is `true`.
`includeRejectedCellsWithDetails`	Optionally, indicate if the response should include the reasons why cells are rejected. Default is `false`.

Table 8-70 Import Data Slice Examples

Source Cell	Target Cell	Resulting Target Cell
Supporting Detail (SD)	#missing	SD
SD	Value	Add SD value to the existing value, do not add SD
Value	SD	Delete SD, add Value to the existing value
SD1	SD2	Delete SD2, add SD value to the existing value, do not add SD1

Sample payload:

```
{
   "aggregateEssbaseData":true,
   "cellNotesOption":"Overwrite",
   "dateFormat":"DD/MM/YYYY",
   "strictDateValidation":true,
    "dryRun": true,
   "customParams":{
       "PostDataImportRuleNames":"Post data rule 1, \"post, data rule
2\"",
       "IncludeRejectedCells":true,
```

```
    "IncludeRejectedCellsWithDetails":true
},
```

Response

Supported Media Types: `application/json`

JSON Output

The rejected cells consist of cells that the user does not have read-write access to; cells where row or column member names are invalid and do not exist; cells where the data is invalid (for example, an invalid Smart List value); and cells that are non-numeric (Smart List, Text, or Date type) with data when `aggregateEssbaseData` is set to true.

```
{

"numAcceptedCells": 3,

"numRejectedCells": 9,

"rejectedCells": ["[BaseData, FY15, Plan, Working, 410, P_160, Jan,
Project Number]", "[BaseData, FY15, Plan, Working, 410, P_160, Feb,
Project Number]", "[BaseData, FY15, Plan, Working, 410, P_160, Mar,
Project Number]", "[BaseData, FY15, Plan, Working, 410, P_160, Jan,
Request Date]", "[BaseData, FY15, Plan, Working, 410, P_160, Feb, Request
Date]", "[BaseData, FY15, Plan, Working, 410, P_160, Mar, Request Date]",
"[BaseData, FY15, Plan, Working, 410, P_160, Jan, Project Type]",
"[BaseData, FY15, Plan, Working, 410, P_160, Feb, Project Type]",
"[BaseData, FY15, Plan, Working, 410, P_160, Mar, Project Type]"],
```

Export Data Slices

Can be used to export data for a specified region. The exported data will be in the form of a JSON grid with pov, columns, and 0 or more data rows. Data will be exported only for cells for which the user has read-write access.

Required Roles

Service Administrator

REST Resource

```
POST /HyperionPlanning/rest/{api_version}/applications/{application}/
plantypes/{plantype}/exportdataslice
```

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-71 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application for which to export the data slice	Path	Yes	None
`plantype`	Name of the plan type for which to export the data slice	Path	Yes	None

Example URL and payload:

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/applications/Vision/plantypes/plan1/exportdataslice`

Payload Parameters

The Payload is JSON with the following parameters.

Table 8-72 Parameters

Name	Description
`gridDefinition`	JSON grid definition to define the region
`exportPlanningData`	True or false. Optionally, you can provide the parameter `exportPlanningData`, which, when set to true, will export supporting details and cell notes along with Essbase numeric data. Default is false.
`suppressMissingBlocks`	True or false. Optionally, you can set `suppressMissingBlocks` to true to suppress blocks with missing data.
`suppressMissingRows`	True or false. Optionally, you can set `suppressMissingRows` to true to suppress rows with missing data.
`suppressMissingColumns`	True or false. Optionally, you can set `suppressMissingColumns` to true to suppress rows with missing data.

Supported Media Type: application

Sample Payload

Example 1: Providing dimension names as follows in the `gridDefinition` is recommended and is more efficient.

```
{
   "exportPlanningData": false,
   "gridDefinition": {
      "suppressMissingBlocks": true,
      "pov": {
         "dimensions": [
            "HSP_View",
            "Year",
            "Scenario",
            "Version",
            "Entity",
```

```
            "Product"
         ],
         "members": [
            [
               "BaseData"
            ],
            [
               "FY15"
            ],
            [
               "Plan"
            ],
            [
               "Working"
            ],
            [
               "410"
            ],
            [
               "P_160"
            ]
         ]
      },
      "columns": [
         {
            "dimensions": [
               "Period"
            ],
            "members": [
               [
                  "IDescendants(Q1)"
               ]
            ]
         },
         {
            "dimensions": [
               "Period"
            ],
            "members": [
               [
                  "IDescendants(Q2)"
               ]
            ]
         }
      ],
      "rows": [
         {
            "dimensions": [
               "Account"
            ],
            "members": [
               [
                  "Project Number",
                  "Request Date",
                  "Project Type",
```

```
                "Project Investment"
            ]
        ]
      }
    ]
  }
}
```

OR

No dimension names provided is less efficient:

```
{
   "exportPlanningData": true,
   "gridDefinition": {
      "suppressMissingBlocks": true,
      "pov": {
         "members": [
            [ "BaseData" ], [ "FY15" ], [ "Plan"],[ "Working" ],["410" ],
["P_160" ]
         ]
      },
      "columns": [
         {
            "members": [
               [
                  "IDescendants(Q1)"
               ]
            ]
         },
         {
            "members": [
               [ "IDescendants(Q2)" ]
            ]
         }
      ],
      "rows": [
         {
            "members": [
               [
                  "Project Number",
                  "Request Date",
                  "Project Type",
                  "Project Investment"
               ]
            ]
         }
      ]
   }
}
```

JSON Output

The following shows an example of the response body with exportPlanningData : true.


```
{
   "pov": [
      "BaseData",
      "FY15",
      "Plan",
      "Working",
      "410",
      "P_160"
   ],
   "columns": [
      [
         "Jan",
         "Feb",
         "Mar",
         "Q1",
         "Apr",
         "May",
         "Jun",
         "Q2"
      ]
   ],
   "rows": [
      {
         "headers": [
            "Project Number"
         ],
         "data": [
            "1",
            "2",
            "3",
            " ",
            " ",
            " ",
            " ",
            " "
         ],
         "cellNotes": [
            [
               {
                  "contents": "Internal Project<br/>"
               },
               {
                  "contents": "Project delayed<br/>"
               }
            ],
            [],
            [],
            [],
            [],
```

```
            [],
            [],
            []
         ]
      },
      {
         "headers": [
            "Request Date"
         ],
         "data": [
            "",
            "",
            "",
            "",
            "",
            "",
            "",
            ""
         ]
      },
      {
         "headers": [
            "Project Type"
         ],
         "data": [
            "Other",
            "IT",
            "Construction",
            "",
            "",
            "",
            "",
            ""
         ]
      },
      {
         "headers": [
            "Project Investment"
         ],
         "data": [
            "100000",
            "110000",
            "200000",
            "410000",
            "",
            "",
            "",
            ""
         ],
         "cellNotes": [
            [],
            [
               {
                  "contents": "Internal + External investments made
here.<br/>"
```

```
                }
             ],
             [],
             [],
             [],
             [],
             [],
             []
          ],
          " supportingDetail": [
             null,
             {
                "items": [
                   {
                      "value": "60000",
                      "position": 0,
                      "label": "Internal",
                      "generation": 0,
                      "operator": "+"
                   },
                   {
                      "value": "50000",
                      "position": 1,
                      "label": "External",
                      "generation": 0,
                      "operator": "+"
                   }
                ]
             },
             null,
             null,
             null,
             null,
             null,
             null
          ]
       }
    ]
}
```

Example 2: Suppress missing blocks, rows, and columns when exporting a data slice:

```
{
   "exportPlanningData": false,
   "gridDefinition": {
      "suppressMissingBlocks": true,
      "suppressMissingRows": true,
      "suppressMissingColumns": true,
      "pov": {
         "dimensions": [
            "HSP_View",
```

```
            "Year",
            "Scenario",
            "Version",
            "Entity",
            "Product"
        ],
        "members": [
            [
                "BaseData"
            ],
            [
                "FY15"
            ],
            [
                "Plan"
            ],
            [
                "Working"
            ],
            [
                "410"
            ],
            [
                "P_160"
            ]
        ]
    },
    "columns": [
        {
            "dimensions": [
                "Period"
            ],
            "members": [
                [
                    "IDescendants(Q1)"
                ]
            ]
        },
        {
            "dimensions": [
                "Period"
            ],
            "members": [
                [
                    "IDescendants(Q2)"
                ]
            ]
        }
    ],
    "rows": [
        {
            "dimensions": [
                "Account"
            ],
            "members": [
```

```
                [
                   "Project Number",
                   "Request Date",
                   "Project Type",
                   "Project Investment"
                ]
             ]
          }
       ]
    }
}
```

JSON Output:

```
{
   "pov": [
      "BaseData",
      "FY15",
      "Plan",
      "Working",
      "410",
      "P_160"
   ],
   "columns": [
      [
         "Jan",
         "Feb",
         "Mar",
         "Q1",
         "Apr",
         "May",
         "Jun",
         "Q2"
      ]
   ],
   "rows": [
      {
         "headers": [
            "Project Number"
         ],
         "data": [
            "1",
            "2",
            "3",
            " "
         ]
      },
      {
         "headers": [
            "Project Type"
         ],
```

```
            "data": [
               "Other",
               "IT",
               "Construction",
               ""
            ]
         },
         {
            "headers": [
               "Project Investment"
            ],
            "data": [
               "100000",
               "110000",
               "200000",
               "410000"
            ]
         }
      ]
}
```

Example payload with multiple dimensions:

```
{
   "exportPlanningData": false,
   "gridDefinition": {
      "suppressMissingBlocks": true,
      "pov": {
         "dimensions": [
            "HSP_View",
            "Scenario",
            "Version",
            "Product"
         ],
         "members": [
            [
               "BaseData"
            ],
            [
               "Plan"
            ],
            [
               "Working"
            ],
            [
               "P_160"
            ]
         ]
      },
      "columns": [
         {
            "dimensions": [
```

```
            "Year", "Period"
         ],
         "members": [
            [
               "FY19"
            ],
            [
               "IDescendants(Q1)"
            ]
         ]
      },
      {
         "dimensions": [
            "Year", "Period"
         ],
         "members": [
            [
               "FY20"
            ],
            [
               "IDescendants(Q1)"
            ]
         ]
      }
   ],
   "rows": [
      {
         "dimensions": [
            "Entity", "Account"
         ],
         "members": [
             [
               "410",
               "420"
            ],
            [
               "Project Number",
               "Request Date",
               "Project Type",
               "Project Investment"
            ]
         ]
      },
      {
         "dimensions": [
            "Entity", "Account"
         ],
         "members": [
             [
               "430"
            ],
            [
               "Project Investment"
            ]
         ]
```

```
            }
        ]
    }
}
```

Clear Data Slices

Can be used to clear Planning and Essbase data for a specified region. In order to run this operation, the user must be an administrator.

Required Roles

Service Administrator

REST Resource

`POST /HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/cleardataslice`

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-73 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application for which to export the data slice	Path	Yes	None
`plantype`	Name of the plan type for which to export the data slice	Path	Yes	None

Example URL and Payload:

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/applications/Vision/plantypes/plan1/cleardataslice`

Payload Parameters

The Payload is JSON with the following parameters.

Table 8-74 Parameters

Name	Description
`gridDefinition`	JSON grid definition to define the region
`clearEssbaseData`	True or false. If true, will clear Essbase numeric data. Default is true.
`clearPlanningData`	True or false. If true, will delete the cell notes, attachments, and supporting details. Default is false.

Sample Payload

Providing dimension names as follows in the `gridDefinition` is recommended and is more efficient.

```
{
"clearEssbaseData":true,
"clearPlanningData":false,
"gridDefinition" : {
"suppressMissingBlocks" : true,
"pov" : {
"dimensions" : [ "HSP_View", "Year", "Scenario", "Version", "Entity", "Product" ],
"members" : [ [ "BaseData" ], [ "FY15" ], [ "Plan" ], [ "Working" ], [ "410" ], [ "P_160" ] ]
},
"columns" : [ {
"dimensions" : [ "Period" ],
"members" : [ [ "IDescendants(Q1)" ] ]
}, {
"dimensions" : [ "Period" ],
"members" : [ [ "IDescendants(Q2)" ] ]
} ],
"rows" : [ {
"dimensions" : [ "Account" ],
"members" : [ [ "Project Number", "Request Date", "Project Type", "Project Investment" ] ]
} ]
}
}
```

OR

No dimension names provided is less efficient:

```
{
"clearEssbaseData":true,
"clearPlanningData":false,
"gridDefinition" : {
"suppressMissingBlocks" : true,
"pov" : {
"members" : [ [ "BaseData" ], [ "FY15" ], [ "Plan" ], [ "Working" ], [ "410" ], [ "P_160" ] ]
```

},

"columns" : [{

"members" : [["IDescendants(Q1)"]]

}, {

"members" : [["IDescendants(Q2)"]]

}],

"rows" : [{

"members" : [["Project Number", "Request Date", "Project Type", "Project Investment"]]

}]

}

}

Response

Supported Media Types: `application/json`

JSON Output

The following shows an example of the response body with clearEssbaseData true and clearPlanningData false. There is one rejected cell due to the presence of supporting details because clearPlanningData is false:

{

"numClearedCells": 31,

"numRejectedCells": 1

"rejectedCells": ["Project Investment,Feb,BaseData,FY15,Plan,Working,410,P_160"],

}

Getting and Setting Substitution Variables

You can use REST APIs to get and set substitution variables at the plan level and application level, as summarized here.

You can also use REST APIs to delete substitution variables. See Deleting Substitution Variables.

Required Roles

Service Administrator, Power User (with Rule Launch access)

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 8-75 Getting and Setting Substitution Variables

Task	Request	REST Resource
Get All Substitution Variables Defined for the Application	GET	/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables
Get a Substitution Variable Defined for the Application	GET	/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables/MyPeriod
Create or Update All Substitution Variables Defined for the Application	POST	/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables
Get Substitution Variables Defined at the Plan Type Level	GET	/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables
Get Derived Substitution Variables at the Plan Type Level	GET	/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables?q={"derivedValues":true}
Get a Substitution Variable Defined at the Plan Type Level	GET	/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables/CurrYear
Get a Derived Substitution Variable Defined at the Plan Type Level	GET	HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables/MyPeriod?q={"derivedValues":true}
Create and Update Substitution Variables at the Plan Type Level	POST	/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables

Get All Substitution Variables Defined for the Application

You can use REST APIs to retrieve all substitution variables defined for the application (all plan types).

Required Roles

Service Administrator, Power User (with Rule Launch access)

REST Resource

```
GET       /HyperionPlanning/rest/{api_version}/applications/{application}/
substitutionvariables
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-76 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/applications/Vision/substitutionvariables`

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 8-77 Parameters

Name	Description
`items`	Collection of information about the resource
`name`	Name of the substitution variable, such as CurrYear
`value`	Value of the substitution variable, such as FY16
`planType`	Plan type, such as Plan1, or ALL for all plan types

Example of Response Body

The following shows an example of the response body.

```
{
    "items": [{
        "name": "CurrYear",
        "value": "FY16",
        "planType": "ALL"
    }, {
        "name": "CurrYear",
        "value": "FY17",
        "planType": "Plan2"
```

```
    },{
        "name": "CurrPeriod",
        "value": "Jan",
        "planType": "Plan1"
    }, {
        "name": "CurrPeriod",
        "value": "Feb",
        "planType": "ALL"
    }]
}
```

Get a Substitution Variable Defined for the Application

You can use REST APIs to retrieve a substitution variable defined for the application.

Required Roles

Service Administrator, Power User (with Rule Launch access)

REST Resource

```
GET       /HyperionPlanning/rest/{api_version}/applications/
{application}/substitutionvariables/CurrPeriod
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-78 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/applications/Vision/substitutionvariables/CurrPeriod`

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 8-79 Parameters

Name	Description
name	Name of the substitution variable, such as CurrPeriod
value	Value of the substitution variable, such as Jan
planType	Plan type, such as Plan1, or ALL for all plan types

Example of Response Body

The following shows an example of the response body.

```
{
    "name": "CurrPeriod",
    "value": "Jan",
    "planType": "ALL",
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/vision/substitutionvariables/CurrPeriod",
        "action": "GET"
    }]
}
```

Create or Update All Substitution Variables Defined for the Application

Can be used to create or update substitution variables for the application.

Variables in the payload that exit in the application at the defined scope will be updated; new variables will be created at the defined scope.

Required Roles

Service Administrator

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/{application}/
substitutionvariables
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-80 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with	Path	Yes	None

Table 8-80 (Cont.) Parameters

Name	Description	Type	Required	Default
application	The name of the application	Path	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/substitutionvariables
```

Example Payload

With the following payload, `CurrYear` at the application level will be updated, and `CurrPeriod` will be created at the `Plan3` level.

```
{
    "items": [{
        "name": "CurrYear",
        "value": "FY18",
        "planType": "ALL"
    }, {
        "name": "CurrPeriod",
        "value": "Dec",
        "planType": "Plan3"
    }]
}
```

Response

Supported Media Types: `application/json`

Example of a successful response

```
Http status code: 204 (No content)
```

Example of an error response

```
Http status: 400
```

To confirm the results, you can go to the application to see the updates.

Get Substitution Variables Defined at the Plan Type Level

You can use REST APIs to retrieve a list of retrieve a list of substitution variables defined at the plan type level.

Required Roles

Service Administrator, Power User (with Rule Launch access)

Rest Resource

```
GET       /HyperionPlanning/rest/{api_version}/applications/{application}/
plantypes/{plantype}/substitutionvariables
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-81 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`plantype`	The plan type for which to get substitution variables	Path	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/plantypes/Plan1/
substitutionvariables
```

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 8-82 Parameters

Name	Description
`items`	Collection of information for the resource
`name`	Name of the substitution variable, such as CurrPeriod
`value`	Value of the substitution variable, such as Jan
`planType`	Name of the plan type, such as Plan1

Example of Response Body

The following shows an example of the response body.

```
{
    "items": [{
        "name": "CurrPeriod",
        "value": "Jan",
        "planType": "Plan1"
    }]
```

```
}
```

Get Derived Substitution Variables at the Plan Type Level

You can use REST APIs to retrieve a list of derived substitution variables at the plan type level.

Required Roles

Service Administrator, Power User (with Rule Launch access)

Rest Resource

```
GET       /HyperionPlanning/rest/{api_version}/applications/
{application}/plantypes/{plan}/substitutionvariables?
q={"derivedValues":true}
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-83 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`plantype`	Name of the plan type for which to get substitution variables	Path	Yes	None
`q`	Options for returning derived values, as described in the following row	Query	No	
`derivedValues`	If set to `true`, the derived list shows all variables available at run time to be used against the plan type. This includes variables defined at the application level and at the plan type level. If a substitution variable with the same name is defined both at the plan type level and at the application level, the plan type level is returned.	Query	No	`derivedValues` = `true` when getting derived substitution variables

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/plantypes/Plan1/
substitutionvariables?q={"derivedValues":true}
```

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 8-84 Parameters

Name	Description
items	Collection of information about the resource
name	Name of the substitution variable, such as CurrYear
value	Value of the substitution variable, such as FY16
planType	Name of the plan type, such as Plan1, or ALL for all plan types

Example of Response Body

The following shows an example of the response body.

```
{
    "items": [{
        "name": "CurrYear",
        "value": "FY16",
        "planType": "ALL"
    }, {
        "name": "CurrPeriod",
        "value": "Jan",
        "planType": "Plan1"
    }]
}
```

Get a Substitution Variable Defined at the Plan Type Level

You can use REST APIs to retrieve a substitution variable defined at the plan type level.

Required Roles

Service Administrator, Power User (with Rule Launch access)

REST Resource

```
GET       /HyperionPlanning/rest/{api_version}/applications/{application}/
plantypes/{plantype}/substitutionvariables/CurrYear
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-85 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with	Path	Yes	None
application	The name of the application	Path	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/vision/plantypes/plan1/
substitutionvariables/CurrYear
```

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 8-86 Parameters

Name	Description
`name`	Name of the substitution variable, such as CurrYear
`value`	Value of the substitution variable, such as FY16
`planType`	Name of the plan type, such as Plan1

Example of Response Body

The following shows an example of the response body.

```
{
    "name": "CurrYear",
    "value": "FY17",
    "planType": "Plan1",
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/vision/plantypes/plan1/substitutionvariables/
CurrYear",
        "action": "GET"
    }]
}
```

Get a Derived Substitution Variable Defined at the Plan Type Level

You can use REST APIs to retrieve a derived substitution variable defined at the plan type level.

Required Roles

Service Administrator, Power User (with Rule Launch access)

REST Resource

```
GET       /HyperionPlanning/rest/{api_version}/applications/
{application}/plantypes/{plan}/substitutionvariables/CurrPeriod?
q={"derivedValues":true}
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-87 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`plan`	Name of the plan type for which to get substitution variables	Path	Yes	None
`q`	Options for returning derived values. The value is described in the following row.	Query	No	`derivedValues = false`
`derivedValues`	`true` If set to `true`, the derived list shows all variables available at run time to be used against the plan type. This includes variables defined at the application level and at the plan type level. If a substitution variable with the same name is defined both at the plan type level and at the application level, the plan type level is returned.	Query	No	`false`

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/plantypes/Plan1/
substitutionvariables?q={"derivedValues"=true}
```

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 8-88 Parameters

Name	Description
`items`	Collection of information about the resource
`name`	Name of the substitution variable, such as CurrYear
`value`	Value of the substitution variable, such as FY16
`planType`	Name of the plan type, such as Plan1, or ALL for all plan types

Example of Response Body

The following shows an example of the response body.

```
{
    "name": "CurrPeriod",
    "value": "Jan",
    "planType": "ALL",
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/vision/plantypes/plan1/substitutionvariables/
CurrPeriod?q=%7B%22derivedValues%22:true%7D",
        "action": "GET"
    }]
}
```

Create and Update Substitution Variables at the Plan Type Level

You can use REST APIs to create and update substitution variables at the plan type level. Variables in the payload that exist at the plan type level are updated. New variables are created at the plan type level.

Required Roles

Service Administrator

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/
{application}/plantypes/{plantype}/substitutionvariables
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-89 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`plantype`	Name of the plan type for which to get and set substitution variables	Path	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/plantypes/Plan1/
substitutionvariables
```

Response

Supported Media Types: `application/json`

Example of a successful response

```
Http status code: 204 (No content)
```

Example of an error response

```
Http status: 400
```

To confirm the results, you can go to the application to see the updates.

Deleting Substitution Variables

You can use REST APIs to delete substitution variables at the plan level and application level, as summarized here.

Before deleting substitution variables, you can use REST APIs to get information on what substitution variables are defined for the application or plan type. See Getting and Setting Substitution Variables.

Required Roles

Service Administrator

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 8-90 Deleting Substitution Variables

Task	Request	REST Resource
Delete a Substitution Variable at the Plan Type Level	DELETE	`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables/subvarname`
Delete a Substitution Variable for the Application	DELETE	`/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables/subvarname`
Delete Substitution Variables at the Plan Type Level	POST	`/HyperionPlanning/rest/{api_version}/applications/{application}/plantypes/{plantype}/substitutionvariables:delete`

Table 8-90 (Cont.) Deleting Substitution Variables

Task	Request	REST Resource
Delete Substitution Variables for the Application	POST	`/HyperionPlanning/rest/{api_version}/applications/{application}/substitutionvariables:delete`

Delete a Substitution Variable at the Plan Type Level

Use this REST API to delete a substitution variable defined at the plan type level.

Before deleting substitution variables, you can use REST APIs to get information on what substitution variables are defined for the application or plan type. See Getting and Setting Substitution Variables.

Required Roles

Service Administrator

REST Resource

```
Delete       /HyperionPlanning/rest/{api_version}/applications/
{application}/plantypes/{plantype}/substitutionvariables/subvarname
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-91 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, v3	Path	Yes	None
`plantype`	The name of the plan type for which to delete the substitution variable	Path	Yes	None
`subvarname`	Name of the substitution variable to be deleted	Path	Yes	None

Example URL

The following URL will delete `CurrPeriod` at `Plan1`.

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/plantypes/Plan1/
substitutionvariables/CurrPeriod
```

Response

Supported Media Types: `application/json`

Example of a successful response

```
Http status code: 204 (No content)
```

Example of an error response

```
Http status: 400
```

Delete a Substitution Variable for the Application

Use this REST API to delete a substitution variable defined at the application level.

Before deleting substitution variables, you can use REST APIs to get information on what substitution variables are defined for the application or plan type. See Getting and Setting Substitution Variables.

Required Roles

Service Administrator

REST Resource

```
DELETE       /HyperionPlanning/rest/{api_version}/applications/{application}/
substitutionvariables/subvarname
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-92 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, v3	Path	Yes	None
`subvarname`	The name of the substitution variable to be deleted	Path	Yes	None

Example URL

The following URL will delete `CurrPeriod` at the application level.

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/substitutionvariables/CurrPeriod
```

Response

Supported Media Types: `application/json`

Example of a successful response

```
Http status code: 204 (No content)
```

Example of an error response

```
Http status: 400
```

Delete Substitution Variables at the Plan Type Level

Use this REST API to delete substitution variables at the plan type level. Variables in the payload that exist at the plan type level are deleted.

Before deleting substitution variables, you can use REST APIs to get information on what substitution variables are defined for the application or plan type. See Getting and Setting Substitution Variables.

Required Roles

Service Administrator

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/
{application}/plantypes/{plantype}/substitutionvariables:delete
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-93 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, v3	Path	Yes	None
`plantype`	The name of the plan type for which to delete the substitution variables	Path	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/plantypes/Plan1/
substitutionvariables:delete
```

Example Payload

The following payload will delete `CurrYear` and `CurrPeriod` at the `Plan1` level.

```
{
    "items": [{
        "name": "CurrYear",
        "value": "FY23",
        "planType": "Plan1"
    }, {
        "name": "CurrPeriod",
        "value": "Jan",
```

```
        "planType": "Plan1"
    }]
}
```

Response

Supported Media Types: `application/json`

Example of a successful response

```
Http status code: 204 (No content)
```

Example of an error response

```
Http status: 400
```

Delete Substitution Variables for the Application

Use this REST API to delete substitution variables defined for the application (for all plan types). Variables that exist at the plan type level or application level are deleted.

Before deleting substitution variables, you can use REST APIs to get information on what substitution variables are defined for the application or plan type. See Getting and Setting Substitution Variables.

Required Roles

Service Administrator

REST Resource

```
POST       /HyperionPlanning/rest/{api_version}/applications/{application}/
substitutionvariables:delete
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 8-94 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, v3	Path	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/Vision/substitutionvariables:delete
```

Example Payload

The following payload will delete `CurrPeriod` at the application level and `CurrYear` at `Plan1`.

```
{
    "items": [{
        "name": "CurrPeriod",
        "value": "Jan",
        "planType": "ALL"
    }, {
        "name": "CurrYear",
        "value": "FY23",
        "planType": "Plan1"
    }]
}
```

Response

Supported Media Types: `application/json`

Example of a successful response

```
Http status code: 204 (No content)
```

Example of an error response

```
Http status: 400
```

Example of Response Body

The following shows an example of the response body.

```
{
    "items": [{
        "name": "CurrYear",
        "value": "FY16",
        "planType": "ALL"
    }, {
        "name": "CurrYear",
        "value": "FY17",
        "planType": "Plan2"
    },{
        "name": "CurrPeriod",
        "value": "Jan",
        "planType": "Plan1"
    }, {
        "name": "CurrPeriod",
        "value": "Feb",
        "planType": "ALL"
    }]
}
```

Working with Connections

Use these REST APIs to work with connections.

With multiple environments, using REST APIs saves you time and effort by automating the process of logging in and configuring connections. For information about accessing environments, see Accessing EPM Cloud.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using these REST APIs requires prerequisites. See Prerequisites.

Table 8-95 Working with Connections

Task	Request	REST Resource
View a Connection	GET	*/HyperionPlanning/rest/epm/{api_version}/applications/{application}/connections/{connectionRef}*
View all Connections	GET	*/HyperionPlanning/rest/epm/{api_version}/applications/{application}/connections*
Update a Connection	POST	*/HyperionPlanning/rest/epm/{api_version}/applications/{application}/connections/{connectionRef}*

View a Connection

Use this REST API to view details for a connection that is saved in an application.

Required Roles

Service Administrator

REST Resource

```
GET /HyperionPlanning/rest/epm/{api_version}/applications/{application}/
connections/{connectionRef}
```

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-96 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application for which to view the connection	Path	Yes	None

Table 8-96 (Cont.) Parameters

Name	Description	Type	Required	Default
connectionRef	The connection to view. The value can be either a connection name or ID.	Path	Yes	None

Response

Supported Media Types: application/json

Payload Parameters:

The following table summarizes the parameters.

Table 8-97 Parameters

Parameters	Description
items	Collection of information about the resource
id	Unique identifier for the connection, such as 1c89922d-92ba-46c1-850f-e2a8a416ddf2
name	Name of the connection, such as Connection29
description	Description of the connection, such as Planning
url	The URL of the connection, such as https://<*SERVICE_NAME*>-<*TENANT_NAME*>.<*SERVICE_TYPE*>.<*dcX*>.oraclecloud.com/HyperionPlanning
username	The username for the connection, such as admin
domain	The domain name for the connection
modified	The time stamp of the last modification to the connection details, such as 2021-01-18 12:23:49.0
modifiedBy	The last service administrator to modify the connection details, such as admin

Example Response

The identity domain information as shown as part of the response.

```
{
    "id": "f83b3da2-9505-415e-b7f7-3cf113cc94e4",
    "name": "Connection1",
    "description": "Test Connection",
    "url": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning",
    "username": "admin",
    "domain": "<DOMAIN_NAME>",
    "modified": "2021-02-02 09:16:02.0",
    "modifiedBy": "admin",
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/epm/v1/applications/epbcs1/connections/f83b3da2-9505-415e-
b7f7-3cf113cc94e4",
```

```
            "action": "GET",
            "rel": "self",
            "data": null
        }
    ]
}
```

View All Connections

Use this REST API to view details for all of the connections saved in an application.

This API supports paging, so you can filter the number of connections you see in the output using the offset and limit parameters shown in the table.

Required Roles

Service Administrator

REST Resource

`GET /HyperionPlanning/rest/epm/{api_version}/applications/{application}/connections`

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-98 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application for which to view connections	Path	Yes	None
`offset`	For paging of jobs. Indicates the actual index from which the records are returned. It is 0 based.	Query	No	0
`limit`	For paging for jobs. Controls how many items to return. Defaults to 25 if not specified.	Query	No	25

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com//HyperionPlanning/rest/epm/v1/applications/epbcs1/connections?offset=2&limit=2`

Response

The following table summarizes the parameters.

Table 8-99 Parameters

Parameters	Description
items	Collection of information about the resource
id	Unique identifier for the connection, such as 1c89922d-92ba-46c1-850f-e2a8a416ddf2
name	Name of the connection, such as Connection29
description	Description of the connection, such as Planning
url	The URL of the connection, such as https://<*SERVICE_NAME*>-<*TENANT_NAME*>.<*SERVICE_TYPE*>.<*dcX*>.oraclecloud.com/HyperionPlanning
username	The username for the connection, such as admin
domain	The domain name for the connection
modified	The time stamp of the last modification to the connection details, such as 2021-01-18 12:23:49.0
modifiedBy	The last service administrator to modify the connection details, such as admin

Example Response

The identity domain information as shown as part of the response.

```
{
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/epm/v1/applications/epbcs1/connections?offset=2&limit=2",
            "action": "GET",
            "rel": "self",
            "data": null
        },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/epm/v1/applications/epbcs1/connections?offset=0&limit=2",
            "action": "GET",
            "rel": "prev",
            "data": null
        },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/epm/v1/applications/epbcs1/connections?offset=4&limit=2",
            "action": "GET",
            "rel": "next",
            "data": null
        }
    ],
    "items": [
        {
            "id": "1c89922d-92ba-46c1-850f-e2a8a416ddf2",
```

```
            "name": "Connection20",
            "url": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning",
            "username": "admin",
            "modified": "2021-01-18 12:23:49.0",
            "modifiedBy": "admin",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/epm/v1/applications/epbcs1/connections/1c89922d-92ba-46c1-850f-
e2a8a416ddf2",
                    "action": "GET",
                    "rel": "Self",
                    "data": null
                }
            ]
        },
        {
            "id": "ec94a10e-717b-449a-89ce-0c16b1688caa",
            "name": "Connection29",
            "url": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning",
            "username": "admin",
            "domain": "<DOMAIN_NAME>",
            "modified": "2021-01-18 12:23:49.0",
            "modifiedBy": "admin",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/epm/v1/applications/epbcs1/connections/
ec94a10e-717b-449a-89ce-0c16b1688caa",
                    "action": "GET",
                    "rel": "Self",
                    "data": null
                }
            ]
        }
    ],
    "type": null
}
```


Update a Connection

Use this REST API to update a specific connection that is saved in an application.

You can update the values using either a plain text password or encrypted password. The response returns the updated connection details.

Required Roles

Service Administrator

REST Resource

```
GET /HyperionPlanning/rest/epm/{api_version}/applications/{application}/
connections/{connectionRef}
```

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 8-100 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application for which to update a connection	Path	Yes	None
`connectionRef`	The connection to refer to. The value can be either a connection name or ID.	Path	Yes	None

Table 8-101 Parameters for Connection Information that Can Be Modified

Name	Description
`name`	Name of the connection, such as Connection29
`description`	Description of the connection, such as Planning
`url`	The URL of the connection, such as https://*<SERVICE_NAME>*-*<TENANT_NAME>*.*<SERVICE_TYPE>*.*<dcX>*.oraclecloud.com/HyperionPlanning
`username`	The username for the connection, such as admin
`password`	The password of the connection
`encryptedPassword`	The password of the connection in the encrypted format using the EPM Automate encrypt command. See encrypt.

Example Body

Example 1:

```
{
    "name": "<NEW_CONNECTION_NAME>",
    "description": "<NEW_DESCRIPTION>",
    "url": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning",
    "username": "<NEW_USERNAME>",
    "password": "<NEW_PASSWORD>"
}
```

Example 2:

```
{
    "name": "<NEW_CONNECTION_NAME>",
```

```
    "description": "<NEW_DESCRIPTION>",
    "url": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning",
    "username": "<NEW_USERNAME>",
    "encryptedPassword": "<ENCRYPTED_PASSWORD>"
}
```

Response

Supported Media Type: `application/json`

Table 8-102 Parameters

Parameters	Description
`items`	Collection of information about the resource
`id`	Unique identifier for the connection, such as 1c89922d-92ba-46c1-850f-e2a8a416ddf2
`name`	Name of the connection, such as Connection29
`description`	Description of the connection, such as Planning
`url`	The URL of the connection, such as https://<*SERVICE_NAME*>-<*TENANT_NAME*>.<*SERVICE_TYPE*>.<*dcX*>.oraclecloud.com/HyperionPlanning
`domain`	The domain name for the connection
`username`	The username for the connection, such as admin
`modified`	The time stamp of the last modification to the connection details, such as 2021-01-18 12:23:49.0
`modifiedBy`	The last service administrator to modify the connection details, such as admin

Example Response

The identity domain information as shown as part of the response.

```
{
    "id": "<ID>",
    "name": "<NEW_CONNECTION_NAME>",
    "description": "<NEW_DESCRIPTION>",
    "url": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning",
    "domain": "<DOMAIN_NAME>",
    "username": "<NEW_USERNAME>",
    "modified": "2021-02-02 09:16:02.0",
    "modifiedBy": "admin",
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/epm/v1/applications/epbcs1/connections/f83b3da2-9505-415e-
b7f7-3cf113cc94e4",
            "action": "GET",
            "rel": "self",
            "data": null
        }
```

```
            ]
        }
```

9
Migration REST APIs

Use the Migration REST APIs to get API versions, work with files, manage services and application snapshots, work with users, and skip updates.

Some Migration REST APIs are version 11.1.2.3.600 and others are version v1 or v2. Passing the incorrect version will result in 404 errors when the API is invoked. Be sure to use the correct version for the API. Be sure to use the correct version for the API. Migration REST API versions are as follows.

These Migration APIs are version 11.1.2.3.600:

- Delete Files (v11.1.2.3.600)
- Download
- Get Information About All Application Snapshots
- Get Information About All Services
- Get Information About a Specific Application Snapshot
- List Files (v11.1.2.3.600)
- Provide Feedback (v11.1.2.3.600)
- Run Recreate on a Service (11.1.2.3.600)
- Upload

These Migration APIs are version v1:

- Clone an Environment
- Copy a File Between Instances (v1)
- Copy Application Snapshot (v1)
- Copy from Object Store (v1)
- Copy to Object Store (v1)
- Download Application Snapshot (v1)
- Get Essbase Query Governor Execution Time
- Get the Build Version and Daily Maintenance Window Time (v1)
- LCM Import (v1)
- LCM Export (v1)
- Manage Permission for Manual Access to Database (v1)
- Rename Application Snapshot (v1)
- Restart the Service Instance (v1)
- Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v1)
- Send Email (v1)
- Set Encryption Key (v1)

- Set Essbase Query Governor Execution Time
- Setting the Daily Maintenance Time (v1)
- Skip Updates (v1)
- Upload Application Snapshot (v1)

These Migration APIs are version v2:

- Copy a File Between Instances (v2)
- Copy Application Snapshot (v2)
- Copy from Object Store (v2)
- Copy to Object Store (v2)
- Delete Files (v2)
- Download Application Snapshot (v2)
- Export Essbase Data (v2)
- Get Essbase Query Governor Execution Time
- Get Idle Session Timeout
- Get the Build Version and Daily Maintenance Window Time (v2)
- Get Virus Scan on File Upload
- LCM Import (v2)
- LCM Export (v2)
- List Backups - Only for OCI (Gen 2) Environments (v2)
- List Files (v2)
- Manage Permission for Manual Access to Database (v2)
- Provide Feedback (v2)
- Rename Application Snapshot (v2)
- Restore Backup - Only for OCI (Gen 2) Environments (v2)
- Restart the Service Instance (v2)
- Run Recreate on a Service (v2)
- Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v2)
- Send Email (v2)
- Set Encryption Key (v2)
- Set Essbase Query Governor Execution Time
- Set Idle Session Timeout
- Set Virus Scan on File Upload
- Setting the Daily Maintenance Time (v2)
- Skip Updates (v2)
- Update the IP Allowlist - Only for OCI (Gen 2) Environments
- Upload Application Snapshot (v2)
- View the IP Allowlist - Only for OCI (Gen 2) Environments

This Migration API is version v3:

Delete Files (v3)

URL Structure for Migration

This topic shows the general URL structure for the Migration REST APIs.

Some Migration REST APIs are version 11.1.2.3.600 and others are version v1 or v2. Be sure to use the correct version for the API. Passing the incorrect version will result in 404 errors when the API is invoked.

You can find an API version using REST APIs as described here: Getting API Versions for Migration APIs. For a list of all of the Migration APIs and their version numbers, see Migration REST APIs.

Use this URL structure to access the Migration REST resources:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/{api_version}/{path}
```

Where:

api_version—the API version you are developing with

path—Defines the resource

Migration Status Codes

The status code returned in the response of REST API calls identifies the status of the operation.

Table 9-1 Status Code

Status Code	Description
O	Operation success
-1	Operation in progress
+ve	Operation failed, with the status signifying an error

Getting API Versions for Migration APIs

You can manage versions using the set of REST resources summarized in the following table.

Important: The version number is case-sensitive. For example, if the version number is listed as `v1` with a lowercase `v`, you cannot enter the version number with a capital `V` as in this incorrect example, `V1`, which would result in an error. Instead, you must enter the version number with a lowercase `v` as in this correct example: `v1`.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-2 Manage Versions of Migration APIs

Task	Request	REST Resource
Get REST API Versions for Migration	GET	`/interop/rest/`
Get Information About a Specific REST API Version for Migration	GET	`/interop/rest/{apiVersion}`

Get REST API Versions for Migration

Returns information about which REST APIs are available and supported. Multiple versions may be supported simultaneously.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

GET `/interop/rest/`

Request

Supported Media Types: `application/json`

Table 9-3 Parameters

Name	Description
`Details`	In case of errors, details are published with the error string
`Status`	See Migration Status Codes
`Items`	Detailed information about the API
`Version`	The version
`Lifecycle`	Possible values: `active`, `deprecated`
`Latest`	Whether this version is the latest
`Links`	Detailed information about the link
`Href`	Links to API call
`Action`	The HTTP call type
`Rel`	Possible values: self
`Data`	Parameters as key value pairs passed in the request
`lifecycle`	The stage in the lifecycle, such as active
`version`	The version, such as 11.1.2.3.600, v1, and v2, for example, `"version": "11.1.2.3.600", "v1", v2"`
`serviceType`	The service type, such as PCMCS
`serverVersion`	The server version, such as 21.05.70
`buildVersion`	The build version, such as 21.05.52

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "links": [
        {
            "href": "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600",
            "rel": "self",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null,
    "status": 0,
    "items": [
        {
            "latest": true,
            "links": [
                {
                    "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600",
                    "rel": "version",
                    "data": null,
                    "action": "GET"
                }
            ],
            "lifecycle": "active",
            "version": "11.1.2.3.600",
            "serviceType": "PCMCS",
            "serverVersion": "21.05.70",
            "buildVersion": "21.05.52"
        }
    ],
}
```

Getting API Versions of Migration APIs Sample Code

Prerequisites: json.jar

Common functions: See Common Helper Functions for Java

Example 9-1 Java Sample – getVersionsOfLCM.java

```
//
//
// BEGIN - List all the versions in PBCS
//
public void getLCMVersions() throws Exception {
    String urlString = String.format("%s/interop/rest", serverUrl);
    String response = executeRequest(urlString, "GET", null);
    JSONObject json = new JSONObject(response);
    int resStatus = json.getInt("status");
    if (resStatus == 0) {
```

```
        JSONArray fileList = json.getJSONArray("items");
        System.out.println("List of files are :");
        JSONObject jObj = null;
        for(int i=0; i<fileList.length();i++){
     System.out.println("Version :" + jObj.getString("version"));
          System.out.println("Lifecycle :" +
jObj.getString("lifecycle"));
          System.out.println("Latest :" + jObj.getString("latest"));
          System.out.println("Link :" + ((JSONObject) ((JSONArray)
jObj.getJSONArray("links")).get(0)).getString("href") + "\n");
        }
    }
}
//
// END - List all the versions in PBCS
//
```

Example 9-2 cURL Sample – GetVersionsOfLCM.sh

Prerequisites: jq

Common functions: See Common Helper Functions for cURL

```
funcGetLCMVersions() {
    url=$SERVER_URL/interop/rest
    funcExecuteRequest "GET" $url

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "List of versions :"
        count=`echo $output | jq '.items | length'`
        i=0
        while [ $i -lt $count ]; do
            echo "Version : " `echo $output | jq
'.items['$i'].version'`
            echo "Lifecycle :" `echo $output | jq
'.items['$i'].lifecycle'`
            echo "Latest :" `echo $output | jq '.items['$i'].latest'`
            echo "Link :" `echo $output | jq
'.items['$i'].links[0].href'`
            echo ""
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 9-3 Groovy Sample – GetVersionsOfLCM.groovy

Prerequisites: json.jar

Common functions: See CSS Common Helper Functions for Groovy

```
def getLCMVersions() {
    def url;
    try {
            url = new URL(serverUrl + "/interop/rest/")
    } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
    }
    response = executeRequest(url, "GET", null);
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == 0 ) {
        def items = object.items
        println "List of versions :"
        items.each{
            println "Version : " + it.version
            println "Lifecycle : " + it.lifecycle
            println "Latest : " + it.latest
            println "Link : " + it.links[0].href + "\n"
        }
    } else {
        println "Error occurred while listing versions"
        if (object.details != null)
                println "Error details: " + object.details
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Get Information About a Specific REST API Version for Migration

Returns information about a specific version.

Some Migration REST APIs are version 11.1.2.3.600, and others are other versions, such as v1 or v3. Passing the incorrect version will result in 404 errors when the API is invoked. Be sure to use the correct version for the API; `api_version` could be `11.1.2.3.600`, `v1`, or `v2`.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

GET `/interop/rest/{api_version}`

Request

Parameters:

The following table summarizes the client request.

Table 9-4 Parameters

Name	Description	Type	Default
api_version	Specific API version	Path	Yes

Response

Supported Media Types: application/json

Table 9-5 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Possible values: self, recreate service
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "status":0,
    "details":null,
    "links":[{
        "data":null,
        "action":"GET",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600",
        "rel":"self"
        },{
        "data":null,
        "action":"GET",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/services",
        "rel":"recreate service"
        },{
        "data":null,
        "action":"GET",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applications",
        "rel":"application service"
        },{
        "data":null,
```

```
        "action":"GET",    "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots    "rel":"application snapshot service"
    },{
"data":null,
"action":"POST",
"rel":"feedback services",
"href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
feedback"
}]
}
```

Get Information about a Specific Version of Migration Sample Code

Example 9-4 Java Sample – getInfoAboutSpecificVersion.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN - List version details
//
public void getLCMVersionDetails() throws Exception {
    String urlString = String.format("%s/interop/rest/%s", serverUrl,
apiVersion);
    String response = executeRequest(urlString, "GET", null);
    JSONObject json = new JSONObject(response);
    int resStatus = json.getInt("status");
    if (resStatus == 0) {
        JSONArray linksArray = json.getJSONArray("links");
        System.out.println("Version " + apiVersion + " details :");
        JSONObject jObj = null;
        for(int i=0; i < linksArray.length(); i++){
            jObj = (JSONObject)linksArray.get(i);
            System.out.println("Service :" + jObj.getString("rel"));
            System.out.println("URL :" + jObj.getString("href"));
            System.out.println("Action :" + jObj.getString("action") + "\n");
        }
    }
}
//
// END - List version details
//
```

Example 9-5 cURL Sample – GetInfoAboutSpecificVersion.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcGetLCMVersionDetails() {
    url=$SERVER_URL/interop/rest/$API_VERSION
    funcExecuteRequest "GET" $url
```

```
    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Version $API_VERSION details :"
        count=`echo $output | jq '.links | length'`
        i=0
        while [ $i -lt $count ]; do
            echo "Service : " `echo $output | jq '.links['$i'].rel'`
            echo "URL :" `echo $output | jq '.links['$i'].href'`
            echo "Action :" `echo $output | jq '.links['$i'].action'`
            echo ""
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 9-6 Groovy Sample – GetInfoAboutSpecificVersion.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def getLCMVersionDetails() {
    def url;
    try {
            url = new URL(serverUrl + "/interop/rest/" + apiVersion)
    } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
    }
    response = executeRequest(url, "GET", null);
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == 0 ) {
        def links = object.links
        println "Version " + apiVersion + " details :"
        links.each{
            println "Service : " + it.rel
            println "URL : " + it.href
            println "Action : " + it.action + "\n"
        }
    } else {
        println "Error occurred while fetching version details"
        if (object.details != null)
                println "Error details: " + object.details
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Import and Export Files

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-6 Import and Export Files

Task	Request	REST Resource
LCM Import (v1)	POST	`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration?q={type:"import"}`
LCM Import (v2)	POST	`/interop/rest/v2/snapshots/import`
LCM Export (v1)	POST	`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration?q={type:"export"}`
LCM Export (v2)	POST	`/interop/rest/v2/snapshots/export`

LCM Import (v1)

Initiates import of a Migration snapshot so that the contents of the application snapshot are imported into the application. You can complete these tasks for imported users: set a specific password for all users in the snapshot, set a unique temporary password for each user in the snapshot, and force password reset at first login.

The presence of status -1 in the response indicates that the import is in progress. You should use the job status URI to determine whether the import is complete.

If the Job completes with status 1, the task details will be mentioned in the items from which the source, destination, and URL to fetch the first set of errors is available. All issues for a particular task can be fetched in the manner of pagination. Acceptable values for msgtype are: `error/warn/info`; `limit` represents the number of issues requested per request, and `offset` marks the beginning number to fetch the issues.

This API is version 11.1.2.3.600.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

Identity Domain Administrator role is required to import user and predefined roles

Table 9-7 LCM Import

Task	Request	REST Resource
LCM Import	POST	`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration?q={type:"import"}`
Import Status; the `9` in the resource is used as an example here	GET	`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration/9`
Details	GET	`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration/9/0/details?limit=25&msgtype=error&offset=0`

REST Resource

POST `/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration?q={type:"import"}`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-8 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`applicationSnapshotName`	Application snapshot that is to be imported	Path	Yes	None
`type`	Type of migration being performed, `import`	Query	Yes	None
`importUsers`	Whether to import users; `true` imports users and their predefined role assignments. The import fails if the user does not have the Identity Domain Administrator role.	Query	No	`false`
`userPassword`	The default password for the imported users.	Query	No	A unique temporary password is assigned to each user

Table 9-8 (Cont.) Parameters

Name	Description	Type	Required	Default
`resetPassword`	Whether to force reset password for the imported users on first login, `true` or `false`	Query	No	`true`

Response

Supported Media Types: `application/json`

Table 9-9 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`source`	From where the navigation is being performed
`destination`	To where the navigation is being performed
`name`	Name of the task, usually "Task Information"
`links`	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body

The following shows an example of the response body in JSON format.

Response 1 example when job is in progress:

```
{
    "details":null,
    "status":-1,
    "links":[{
        "data":null,
        "action":"POST",
        "rel":"self",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/ss2/migrationq={type:"import"}"
        },{
        "data":null,
        "action":"POST",
        "rel":"Job Status",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
```

```
applicationsnapshots/ss2/migration/2"
    }]
}
```

Response 2 example when import completes with errors:

```
{"status":1,
"items":[{
   "source":"/Nasdaq/HSS-Shared Services",
   "name":"Task Information",
   "destination":"Shared Services",
   "links":[{
      "data":null,
      "action":"GET",
      "rel":"Job Details",
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1/0/details?
limit=25&offset=0&msgtype=error"}]
   },
   {"source":"/Artifact Snapshot/HP-SS2",
   "name":"Task Information",
   "destination":"",
   "links":[{
      "data":null,
      "action":"GET",
      "rel":"Job Details",
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1/1/details?
limit=25&offset=0&msgtype=error"}]
   }],
   "details":null,
   "links":[{
      "data":null,
      "action":"POST",
      "rel":"self",
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1"}
      ]}
         }
```

Response 3 example when each type of task information is requested:

```
{"status":0,
"items":[{
   "msgType":"error",
   "artifact":"/Native Directory/Groups",
   "msgText":"EPMIE-00069: Failed to find user during group children
import. User user0026 not found. Please ensure that a user exists in
the system.",
      "msgCategory":"14000: Error reported.",
   "msgCategory":"14000: Error reported."
```

```
   },{
   "msgType":"error",
   "artifact":"/Native Directory/Groups",
   "msgText":"EPMIE-00069: Failed to find user during group children import.
User user0025 not found. Please ensure that a user exists in the system.",
   "msgCategory":"14000: Error reported." }
   ],
"details":null,
"links":[{
   "data":null,
   "action":"GET",
   "rel":"self",
   "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&msgtype=error&offset=25"},
   {"data":null,
   "action":"GET",
   "rel":"next",
   "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=27&msgType=error"},
   {"data":null,
   "action":"GET",
   "rel":"prev",
   "href":https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=23&msgType=error
   }]
      }
```

LCM Import Sample Code

Example 9-7 Java Sample – lcmImport.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
{"status":0,
"items":[{
   "msgType":"error",
   "artifact":"/Native Directory/Groups",
   "msgText":"EPMIE-00069: Failed to find user during group children import.
User user0026 not found. Please ensure that a user exists in the system.",
      "msgCategory":"14000: Error reported.",
   "msgCategory":"14000: Error reported."
   },{
   "msgType":"error",
   "artifact":"/Native Directory/Groups",
   "msgText":"EPMIE-00069: Failed to find user during group children import.
```

```
User user0025 not found. Please ensure that a user exists in the
system.",
   "msgCategory":"14000: Error reported." }
   ],
"details":null,
"links":[{
   "data":null,
   "action":"GET",
   "rel":"self",
   "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1/0/details?
limit=2&msgtype=error&offset=25"},
   {"data":null,
   "action":"GET",
   "rel":"next",
   "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=27&msgType=error"},
   {"data":null,
   "action":"GET",
   "rel":"prev",
   "href":https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=23&msgType=error
   }]
      }
```


Example 9-8 cURL Sample – LcmImport.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL


```
{"status":0,
"items":[{
   "msgType":"error",
   "artifact":"/Native Directory/Groups",
   "msgText":"EPMIE-00069: Failed to find user during group children
import. User user0026 not found. Please ensure that a user exists in
the system.",
      "msgCategory":"14000: Error reported.",
   "msgCategory":"14000: Error reported."
   },{
   "msgType":"error",
   "artifact":"/Native Directory/Groups",
   "msgText":"EPMIE-00069: Failed to find user during group children
import. User user0025 not found. Please ensure that a user exists in
the system.",
   "msgCategory":"14000: Error reported." }
   ],
```

```
"details":null,
"links":[{
   "data":null,
   "action":"GET",
   "rel":"self",
   "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&msgtype=error&offset=25"},
   {"data":null,
   "action":"GET",
   "rel":"next",
   "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=27&msgType=error"},
   {"data":null,
   "action":"GET",
   "rel":"prev",
   "href":https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=23&msgType=error
   }]
      }
```

Example 9-9 Groovy Sample – LcmImport.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
{"status":0,
"items":[{
   "msgType":"error",
   "artifact":"/Native Directory/Groups",
   "msgText":"EPMIE-00069: Failed to find user during group children import.
User user0026 not found. Please ensure that a user exists in the system.",
      "msgCategory":"14000: Error reported.",
   "msgCategory":"14000: Error reported."
   },{
   "msgType":"error",
   "artifact":"/Native Directory/Groups",
   "msgText":"EPMIE-00069: Failed to find user during group children import.
User user0025 not found. Please ensure that a user exists in the system.",
   "msgCategory":"14000: Error reported." }
   ],
"details":null,
"links":[{
   "data":null,
   "action":"GET",
   "rel":"self",
   "href":"https://<SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1/0/details?
limit=2&msgtype=error&offset=25"},
   {"data":null,
   "action":"GET",
   "rel":"next",
   "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=27&msgType=error"},
   {"data":null,
   "action":"GET",
   "rel":"prev",
   "href":https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=23&msgType=error
   }]
      }
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Sample cURL Command Basic Auth

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/x-www-form-urlencoded' 'https://<EPM-CLOUD-
BASE-URL>
/interop/rest/11.1.2.3.600/applicationsnapshots/<APPLICATION-SNAPSHOT-
NAME>/migration?
q={type:"import",importUsers:"true"}'
```

Sample cURL Command OAuth 2.0

```
curl -X POST --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/x-www-form-urlencoded' 'https://<EPM-CLOUD-
BASE-URL>
/interop/rest/11.1.2.3.600/applicationsnapshots/<APPLICATION-SNAPSHOT-
NAME>/migration?
q={type:"import",importUsers:"true"}'
```

LCM Import (v2)

The LCM Import (v2) REST API initiates import of a Migration snapshot so that the contents of the application snapshot are imported into the application. You can complete these tasks for imported users: set a specific password for all users in the

snapshot, set a unique temporary password for each user in the snapshot, and force password reset at first login.

The presence of status -1 in the response indicates that the import is in progress. You should use the job status URI to determine whether the import is complete.

If the Job completes with status 1, the task details will be mentioned in the items from which the source, destination, and URL to fetch the first set of errors is available. All issues for a particular task can be fetched in the manner of pagination. Acceptable values for msgtype are: `error/warn/info`; `limit` represents the number of issues requested per request, and `offset` marks the beginning number to fetch the issues.

This API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

Identity Domain Administrator role is required to import user and predefined roles.

Table 9-10 LCM Import

Task	Request	REST Resource
LCM Import	POST	`/interop/rest/v2/snapshots/import`
Import Status	GET	`/interop/rest/v2/status/migration/22`
Details	GET	`/interop/rest/v2/status/migration/22/0/details?limit=25&offset=0&msgtype=info`

REST Resource

POST `/interop/rest/v2/snapshots/import`

Support Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-11 Parameters

Name	Description	Type	Required	Default
`snapshotName`	Application snapshot that is to be imported	Payload	Yes	None

Table 9-11 (Cont.) Parameters

Name	Description	Type	Required	Default
`importUsers`	Whether to import users; `true` imports users and their predefined role assignments. The import fails if the user issuing the request does not have the Identity Domain Administrator role.	Payload	No	`false`
`userPassword`	The default password for the imported users.	Payload	No	A unique temporary password is assigned to each user
`resetPassword`	Whether to force reset password for the imported users on first login, `true` or `false`	Payload	No	`true`

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
snapshots/import
```

```
{
    "snapshotName": "Artifact Snapshot",
    "parameters": {
        "importUsers": true,
        "userPassword": "epm_cloud",
        "resetPassword": false
    }
}
```

Response

Supported Media Types: `application/json`

Table 9-12 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource

Table 9-12 (Cont.) Parameters

Parameters	Description
source	From where the navigation is being performed
destination	To where the navigation is being performed
name	Name of the task, usually "Task Information"
links	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body

Response 1 example when import is in progress:

```
{
    "details": null,
    "status": -1,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/snapshots/
import",
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
migration/24",
            "action": "POST",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

Response 2 example when import completes:

```
{
    "details": null,
    "status": 0,
    "items": [
        {
            "name": "Task Information",
            "source": "/Artifact Snapshot/HSS-Shared Services",
            "destination": "Shared Services",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
migration/24/0/details?limit=25&offset=0&msgtype=warning",
                    "action": "GET",
```

```
                    "rel": "Job Details",
                    "data": null
                }
            ]
        },
        {
            "name": "Task Information",
            "source": "/Artifact Snapshot/HP-Vision",
            "destination": "Vision",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/migration/24/1/details?limit=25&offset=0&msgtype=warning",
                    "action": "GET",
                    "rel": "Job Details",
                    "data": null
                }
            ]
        },
        {
            "name": "Task Information",
            "source": "/Artifact Snapshot/DOCREP-Document Repository",
            "destination": "Document Repository",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/migration/24/2/details?limit=25&offset=0&msgtype=warning",
                    "action": "GET",
                    "rel": "Job Details",
                    "data": null
                }
            ]
        },
        {
            "name": "Task Information",
            "source": "/Artifact Snapshot/CALC-Calculation Manager",
            "destination": "Calculation Manager",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/migration/24/3/details?limit=25&offset=0&msgtype=warning",
                    "action": "GET",
                    "rel": "Job Details",
                    "data": null
                }
            ]
        },
        {
            "name": "Task Information",
            "source": "/Artifact Snapshot/FDMEE-FDM Enterprise
Edition",
            "destination": "FDM Enterprise Edition",
```

```
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
migration/24/4/details?limit=25&offset=0&msgtype=warning",
                    "action": "GET",
                    "rel": "Job Details",
                    "data": null
                }
            ]
        }
    ],
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
migration/24",
            "action": "GET",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL Command Basic Auth

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/json' -d '{"snapshotName":"<SNAPSHOT-
NAME>","parameters":
{"importUsers":<TRUE/
FALSE>,"userPassword":"<PASSWORD>","resetPassword":<TRUE/FALSE>}}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/v2/snapshots/import'
```

Sample cURL Command OAuth 2.0

```
curl -X POST --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/json' -d '{"snapshotName":"<SNAPSHOT-
NAME>","parameters":
{"importUsers":<TRUE/
FALSE>,"userPassword":"<PASSWORD>","resetPassword":<TRUE/FALSE>}}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/v2/snapshots/import'
```

LCM Export (v1)

Initiates a repeat export of a Migration artifact based on the settings that were used to export artifacts using the Migration artifact export screen. This REST API is version 11.1.2.3.600.

You can also use EPM Automate to automate the repeat export of artifacts.

The presence of status -1 in the response indicates that the reexport is in progress. You should use the job status URI to determine whether the reexport is complete.

If the Job completes with status 1, the task details will be mentioned in the items from which the source, destination, and URL to fetch the first set of errors is available. All issues for a

particular task can be fetched in the manner of pagination. Acceptable values for `msgtype` are: `error/warn/info`; `limit` represents the number of issues requested per request, and `offset` marks the beginning number to fetch the issues.

This API is version v1.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

Table 9-13 LCM Export

Task	Request	REST Resource
LCM Export	POST	`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration?q={type:"export"}`
Export Status	GET	`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration/8`
Details	GET	`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration/8/0/details?limit=25&msgtype=error&offset=0`

REST Resource

POST `/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/migration?q={type:"export}`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-14 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`applicationSnapshotName`	Application snapshot that has to be exported	Path	Yes	None

Table 9-14 (Cont.) Parameters

Name	Description	Type	Required	Default
`type`	Type of migration being performed, can be export or import	Query	Yes	None

Response

Supported Media Types: `application/json`

Parameters:

Table 9-15 Parameters

Attribute	Description
`details`	In case of errors, details are published with the error string
`status`	See Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible values. Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the re-export operation
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`source`	From where the navigation is being performed
`destination`	To where the navigation is being performed
`name`	Name of the task, usually "Task Information"
`links`	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body

The following is an example of the response body in JSON format.

Response 1 example when export is in progress:

```
{
   "status":-1,
   "links":[{
      "data":null,
      "action":"POST",
      "rel":"self",
   "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/ss2/migrationq={type:"export"}"
      },{
      "data":null,
      "action":"POST",
      "rel":"Job Status",
   "href":"https://<SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/8"
   }],
   "details":null
}
```

Response 2 example when export completes with errors:

```
{"status":1,
"items":[{
   "source":"/Nasdaq/HSS-Shared Services",
   "name":"Task Information",
   "destination":"Shared Services",
   "links":[{
      "data":null,
      "action":"GET",
      "rel":"Job Details",
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1/0/details?
limit=25&offset=0&msgtype=error"}]
   },
   {"source":"/Artifact Snapshot/HP-NASDAQ",
   "name":"Task Information",
   "destination":"",
   "links":[{
      "data":null,
      "action":"GET",
      "rel":"Job Details",
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1/1/details?
limit=25&offse=0&msgtype=error"}]
   }],
   "details":null,
   "links":[{
      "data":null,
      "action":"POST",
      "rel":"self",
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2/migration/1"}
]}
```

Response 3 example when information on each task is requested:

```
{"status":0,
"items":[{
     "msgType":"error",
     "artifact":"/Native Directory/Groups",
     "msgText":"EPMIE-00069: Failed to find user during group children
import. User user0026 not found. Please ensure that a user exists in
the system.",
          "msgCategory":"14000: Error reported.",
```

```
     "msgCategory":"14000: Error reported."
     },{
     "msgType":"error",
     "artifact":"/Native Directory/Groups",
     "msgText":"EPMIE-00069: Failed to find user during group children
import. User user0025 not found. Please ensure that a user exists in the
system.",
     "msgCategory":"14000: Error reported." }
     ],
"details":null,
"links":[{
     "data":null,
     "action":"GET",
     "rel":"self",
     "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&msgType=error&offset=25"},
     {"data":null,
     "action":"GET",
     "rel":"next",
     "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=27&msgType=error"},
     {"data":null,
     "action":"GET",
     "rel":"prev",
     "href":https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/ss2/migration/1/0/details?
limit=2&offset=23&msgType=error
     }]
          }
```

Export Data Sample Code

Example 9-10 Java Sample – LcmExport.java

Prerequisites: json.jar

Common functions: See Appendix A, Common Helper Functions for Java.

```
//
// BEGIN - Export an application snapshot
//
public void exportSnapshot(String applicationSnapshotName) throws Exception
{
    JSONObject params = new JSONObject();
    params.put("type","export");
    String urlString = String.format("%s/interop/rest/%s/
applicationsnapshots/%s/migration?q=%s", serverUrl, apiVersion,
URLEncoder.encode(applicationSnapshotName, "UTF-8"), params.toString());
    String response = executeRequest(urlString, "POST", null);
    System.out.println("Export started successfully");
```

```
    getMigrationJobStatus(fetchPingUrlFromResponse(response, "Job
Status"), "POST");
}
//
// END - Export an application snapshot
//
```

Example 9-11 cURL Sample – LcmExport.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcExportSnapshot() {
    param=$(echo "{type:export}" | sed -f urlencode.sed)
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/migration?q=$param
    funcExecuteRequest "POST" $url

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started exporting successfully"
        funcGetMigrationStatus "POST"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 9-12 Groovy Sample – LcmExport.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def exportSnapshot(applicationSnapshotName) {
    def url;
    try {
        String snapshotName =
URLEncoder.encode(applicationSnapshotName, "UTF-8");
        JSONObject params = new JSONObject();
        params.put("type","export");
        url = new URL(serverUrl + "/interop/rest/" + apiVersion + "/
applicationsnapshots/" + snapshotName + "/migration?q=" +
params.toString());
    } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
    }
    response = executeRequest(url, "POST", null, "application/x-www-
form-urlencoded");
    if (response != null) {
```

```
        getMigrationJobStatus(fetchPingUrlFromResponse(response, "Job
Status"), "POST");
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

LCM Export (v2)

The LCM Export (v2) REST API initiates a repeat export of a Migration artifact based on the settings that were used to export artifacts using the Migration artifact export screen.

The presence of status -1 in the response indicates that the reexport is in progress. You should use the job status URI to determine whether the reexport is complete.

If the Job completes with status 1, the task details will be mentioned in the items from which the source, destination, and URL to fetch the first set of errors is available. All issues for a particular task can be fetched in the manner of pagination. Acceptable values for `msgtype` are: `error/warn/info`; `limit` represents the number of issues requested per request, and `offset` marks the beginning number to fetch the issues.

This API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

Table 9-16 LCM Export

Task	Request	REST Resource
LCM Export	POST	`/interop/rest/v2/snapshots/export`
Export Status	GET	`/interop/rest/v2/status/migration/28`
Details	GET	`/interop/rest/v2/status/migration/28/1/details?limit=25&offset=0&msgtype=info`

REST Resource

POST `/interop/rest/v2/snapshots/export`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-17 Parameters

Name	Description	Type	Required	Default
SnapshotName	Application snapshot that has to be exported	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
snapshots/export
```

```
{
    "snapshotName": "Artifact Snapshot"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 9-18 Parameters

Attribute	Description
details	In case of errors, details are published with the error string
status	See Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Possible values. Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the re-export operation
data	Parameters as key value pairs passed in the request
items	Details about the resource
source	From where the navigation is being performed
destination	To where the navigation is being performed
name	Name of the task, usually "Task Information"

Table 9-18 (Cont.) Parameters

Attribute	Description
links	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body

The following is an example of the response body in JSON format.

Response 1 example when export is in progress:

```
{
    "details": null,
    "status": -1,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/snapshots/
export",
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
migration/28",
            "action": "POST",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

Response 2 example when export completes:

```
{
    "details": null,
    "status": 0,
    "items": [
        {
            "name": "Task Information",
            "source": "Shared Services",
            "destination": "/Artifact Snapshot1/HSS-Shared Services",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
migration/28/0/details?limit=25&offset=0&msgtype=info",
                    "action": "GET",
                    "rel": "Job Details",
                    "data": null
```

```
                }
            ]
        },
        {
            "name": "Task Information",
            "source": "Vision",
            "destination": "/Artifact Snapshot1/HP-Vision",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/migration/28/1/details?limit=25&offset=0&msgtype=info",
                    "action": "GET",
                    "rel": "Job Details",
                    "data": null
                }
            ]
        },
        {
            "name": "Task Information",
            "source": "Document Repository",
            "destination": "/Artifact Snapshot1/DOCREP-Document
Repository",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/migration/28/2/details?limit=25&offset=0&msgtype=info",
                    "action": "GET",
                    "rel": "Job Details",
                    "data": null
                }
            ]
        },
        {
            "name": "Task Information",
            "source": "Calculation Manager",
            "destination": "/Artifact Snapshot1/CALC-Calculation
Manager",
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/migration/28/3/details?limit=25&offset=0&msgtype=info",
                    "action": "GET",
                    "rel": "Job Details",
                    "data": null
                }
            ]
        },
        {
            "name": "Task Information",
            "source": "FDM Enterprise Edition",
            "destination": "/Artifact Snapshot1/FDMEE-FDM Enterprise
Edition",
```

```
            "links": [
                {
                    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
migration/28/4/details?limit=25&offset=0&msgtype=info",
                    "action": "GET",
                    "rel": "Job Details",
                    "data": null
                }
            ]
        }
    ],
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
migration/28",
            "action": "GET",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H
'Content-Type: application/json' -d '{"snapshotName":"Artifact Snapshot"}'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/snapshots/
export'
```

Upload and Download Files

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-19 Upload and Download Files

Task	Request	REST Resource
Upload	POST	/interop/rest/11.1.2.3.600/applicationsnapshots/{applicationSnapshotName}/contents
Download	GET	/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/contents

Upload

Uploads a file from the current directory on the local machine to the repository. Files on the repository cannot be accessed directly.

If a file already exists, the API gives an error and does not overwrite it. Use this command to upload data, metadata, and back up snapshots to a service instance. See About EPM Automate in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

If a -1 status is returned and it is the last chunk to be uploaded, this means that an LCM artifact snapshot has been uploaded and zip extraction is in progress. The client pings the URL until the status is a positive integer. This job is done asynchronously.

Note: The entire path to the file must be encoded, for example, changing `/` to `%2F` and spaces to `%20`.

For example, change this path to an .HTML file in the `apr` directory:

```
apr/2020-03-04 23_07_20/2020-03-04 23_07_20.html
```

to this:

```
apr%2F2020-03-04%2023_07_20%2F2020-03-04%2023_07_20.html
```

This REST API is version 11.1.2.3.600.
Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/11.1.2.3.600/applicationsnapshots/{applicationSnapshotName}/contents`

Note: For Data Management uploads, use the following JSON format for the query parameter:

```
/interop/rest/11.1.2.3.600/applicationsnapshots/{applicationSnapshotName}/contents?extDirPath=inbox
```

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/octet-stream`

The following table summarizes the client request.

Table 9-20 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`applicationSnapshotName`	Name of the application snapshot or file name to be uploaded (for example, "Artifact Snapshot.zip" or s112.csv). A file with this name is created in the repository. If a file or folder with this name exists in the repository, an error indicates that a file or folder exists	Path	Yes	None
`extDirPath`	Used to support upload of Data Management files. Supported values include: • `inbox` - Upload files into the inbox; except for Profitability and Cost Management, Oracle Enterprise Performance Management Cloud business processes look in this location for files to process • `profitinbox` - Upload files to be processed by Profitability and Cost Management • `to_be_imported` - Upload a Narrative Reporting snapshot that is to be imported during the next daily maintenance of the environment • `outbox` - Upload files to the outbox for all EPM Cloud business processes except for Profitability and Cost Management • *profitoutbox* - Upload files to the outbox for Profitability and Cost Management You can also use a directory under `inbox`, `outbox`, `profitinbox`, and `profitoutbox`, for example, `inbox/directory_name` Example: "`extDirPath= inbox/directory_name`" to upload files to a directory within the inbox for processing by Data Management. Upload: `/interop/rest/11.1.2.3.600/applicationsnapshots/applicationSnapshotName/contents?extDirPath=inbox%2Fdm_folder` Example: "`extDirPath=inbox`" where `inbox` is the folder where the Data Management file is to be uploaded Example of query parameters in JSON format for Data Management Upload: `/interop/rest/11.1.2.3.600/applicationsnapshots/{applicationSnapshotName}/contents?extDirPath=inbox`	Query	No	None

Response Body

Supported Media Types: `application/json`

Table 9-21 Parameters

Name	Description
`details`	In case of errors, details are published with the error string

Table 9-21 (Cont.) Parameters

Name	Description
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Possible values: self, recreate service
data	Parameters as key value pairs passed in the request

Example of Response Body:

The following shows an example of the response body in JSON format.

```
{
    "status":0,
    "details":null,
    "links":[{
        "data":null,
        "action":"POST",
    "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/{applicationSnapshotName}/contents
```

REST API Examples with Postman

See REST API Examples with Postman.

Upload Sample Code

Example 9-13 Java Sample – 11.1.2.3.600

Prerequisites: json.jar

```
/**
 *
 * Simple Implementation class to execute Upload functionality for API
version 11.1.2.3.600
 */
public class UploadFile
{

    private final static String userName ; // User name
    private final static String password ; // Password
    private final static String serverUrl; // Server URL
    private String filePath ; //zip File to be Uploaded
    private String extDirPath = "inbox"; // keep it null for uploading
to root directory
    private String details = null;

    public void uploadFile() {
```

```
        boolean status = true;

        try {
            status = sendFileContents(filePath, extDirPath);

            if(status)
                System.out.println("Uploaded contents to " + new
File(filePath).getName());
            else
                System.err.println(details);

        } catch (Exception e) {
            e.printStackTrace();
        }
    }



    private boolean sendFileContents(String filePath, String extDirPath)
            throws Exception {
        HttpURLConnection connection = null;
        FileInputStream content = null;
        File file = new File(filePath);

        try {
            String restURL = String.format(
                    "%s/interop/rest/11.1.2.3.600/applicationsnapshots/%s/
contents",
                    serverUrl, URLEncoder.encode(file.getName(), "UTF-8"));
            if(null != extDirPath)
                restURL = restURL + "?extDirPath="+extDirPath;
            URL url = new URL(restURL);
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod("POST");
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);

            String creds = null;


            creds = userName + ":" + password;

            connection.setRequestProperty("Authorization",
                    "Basic " + new
sun.misc.BASE64Encoder().encode(creds.getBytes()));
            connection.setRequestProperty("Content-Type", "application/octet-
stream");

            content = new FileInputStream(file);
            OutputStream paramOutputStream = connection.getOutputStream();
            if (content != null) {
                byte[] arrayOfByte = new byte[4096];
                boolean hasMore = true;
```

```
                while (hasMore) {
                    int j = content.read(arrayOfByte);
                    if (j < 0) {
                        hasMore = false;
                        continue;
                    }
                    paramOutputStream.write(arrayOfByte, 0,
j);
                }
            }

            int statusCode = connection.getResponseCode();

            String responseBody =
getStringFromInputStream(connection.getInputStream());
            if (statusCode == 200 && responseBody != null) {
                int commandStatus = getCommandStatus(responseBody);
                if (commandStatus == -1) {

getJobStatus(fetchPingUrlFromResponse(responseBody, "Job Status"),
"GET");
                }
                if (commandStatus == 0) {
                    return true;
                }
                else{
                    details = getDetails(responseBody);
                }
            }

            return false;
        } finally {
            if(null != content)
                content.close();
            if (connection != null)
                connection.disconnect();
        }
    }



/**
 * Method to retrieve the error message
 * @param response
 * @return String details
 * @throws Exception
 */
    private String getDetails(String response) throws Exception {
        JSONObject json = new JSONObject(response);
        if (!JSONObject.NULL.equals(json.get("details")))
            return json.getString("details");
        else
            return "NA";
    }
```

```
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Download

Downloads a file from the repository to the current directory in the local environment.

If the content type of the response is `application/JSON`, then an error with details is displayed on the server. Otherwise, the content of the file is streamed through the response.

Note: The entire path to the file must be encoded, for example, changing `/` to `%2F` and spaces to `%20`. This API can be used to download files up to 1GB in a single request.

For example, change this path to an .HTML file in the `apr` directory:

```
apr/2020-03-04 23_07_20/2020-03-04 23_07_20.html
```

to this:

```
apr%2F2020-03-04%2023_07_20%2F2020-03-04%2023_07_20.html
```

This REST API is version 11.1.2.3.600.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

GET `/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/contents`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

The following table summarizes the GET request parameters.

Table 9-22 Parameters

Name	Description	Type	Required	Default
applicationSnapshotName	Application snapshot name or file name to download (for example, "Artifact Snapshot" or s112.csv). The entire applicationSnapshotName must be encoded before sending the request. To download a particular file, provide the path to that file as the value of applicationSnapshotName. For example, to download a Data Management file called s112.csv in the inbox, refer to the file as "inbox\s112.csv" in the path parameter. To download the Activity Reports or access log, use the fully qualified file name as shown in the output of List Files. For example, to download a specific file from the apr directory, use the following format: pr%2F2020-03-04%0A23_07_20%2F2020-03-04%0A23_07_20.html apr%2F%0A2020-03-04%2023_07_20%2F%0Aaccess_log.zip apr%2F%0A2020-03-04%2023_07_20%2F%0Aactivityreport.json.	Path	Yes	None
api_version	Specific API version	Path	Yes	None

Example of Request

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/Vision.zip/contents
```

Table 9-23 Parameters

Name	Description
Details	In case of errors, details are published with the error string
Status	See Migration Status Codes
Links	Detailed information about the link
Href	Links to API call
Action	The HTTP call type
Rel	Possibly value: self
Data	Parameters as key value pairs passed in the request

Response

Supported Media Types: application/json or application/octet-stream

Example of Response Body

The following shows an example of the response body in JSON format in case there is an error during download.

```
{
    "details": "Invalid file : Vision.zip",
    "status":1,
    "links":[{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/Vision.zip/contents",
        "action":"GET",
        "rel":"self",
        "data":null
    }]
}
```

Download Sample Code

Example 9-14 Java Sample – downloadFile.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java.

```
public class DownloadFile600 {

    private String serverUrl; // PBCS server URL
    private String apiVersion = "11.1.2.3.600";
    private String userName; // Server Username
    private String password; // Server Password
    private static String fileName; // file to be downloaded.

    public DownloadFile600(String userName, String password, String
serverUrl, String apiVersion) {
        super();
        this.serverUrl = serverUrl;
        this.apiVersion = apiVersion;
        this.userName = userName;
        this.password = password;
    }

    public void downloadFile(String fileName) throws Exception {
        HttpURLConnection connection = null;
        InputStream inputStream = null;
        FileOutputStream outputStream = null;

        try {
            fileName = fileName.replaceAll("/", "\\\\");
            URL url = new URL(String.format("%s/interop/rest/%s/
applicationsnapshots/%s/contents", serverUrl,
                    apiVersion, URLEncoder.encode(fileName, "UTF-8")));

            System.out.println("DOWNLOAD URL: " + url);
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod("GET");
```

```
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty("Authorization",
                    "Basic " + new
sun.misc.BASE64Encoder().encode((userName + ":" +
password).getBytes()));
            int status = connection.getResponseCode();
            if (status == 200) {
                if (connection.getContentType() != null &&
connection.getContentType().equals("application/json")) {
                    JSONObject json = new
JSONObject(getStringFromInputStream(connection.getInputStream()));
                    System.out.println("Error downloading file : " +
json.getString("details"));
                } else {
                    inputStream = connection.getInputStream();
                    outputStream = downloadContent(connection,
inputStream);
                }
            } else {
                throw new Exception("Http status code: " + status);
            }
        } finally {
            if (connection != null)
                connection.disconnect();
            if (outputStream != null)
                outputStream.close();
            if (inputStream != null)
                inputStream.close();
        }
    }

    private FileOutputStream downloadContent(HttpURLConnection
connection, InputStream inputStream)
            throws FileNotFoundException, IOException {
        FileOutputStream outputStream;
        String downloadedFileName = fileName;
        if (fileName.lastIndexOf("/") != -1) {
            downloadedFileName =
fileName.substring(fileName.lastIndexOf("/") + 1);
        }

        String ext = ".zip";
        if (connection.getHeaderField("fileExtension") != null) {
            ext = "." + connection.getHeaderField("fileExtension");
        }
        if (fileName.lastIndexOf(".") != -1 &&
fileName.lastIndexOf(".") != 0)
            ext = fileName.substring(fileName.lastIndexOf(".") + 1);

        outputStream = new FileOutputStream(new
File(downloadedFileName + ext));
        int bytesRead = -1;
```

```
            byte[] buffer = new byte[5 * 1024 * 1024];
            while ((bytesRead = inputStream.read(buffer)) != -1)
                outputStream.write(buffer, 0, bytesRead);
            System.out.println("File download completed.");
            return outputStream;
        }

}
```

View and Delete Files

This table shows the REST APIs to view and delete files.
These REST APIs are version 11.1.2.3.600 and v2.

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-24 View and Delete Files

Task	Request	REST Resource
List Files (v11.1.2.3.600)	GET	`/applicationsnapshots`
List Files (v2)	GET	`/interop/rest/v2/files/list`
Delete Files (v11.1.2.3.600)	DELETE	`/applicationsnapshots/{applicationSnapshotName}`
Delete Files (v2)	DELETE	`/interop/rest/v2/files/delete`
Delete Files (v3)	POST	`/interop/rest/v3/files/delete`

List Files (v11.1.2.3.600)

This API (v11.1.2.3.600) lists the files in the Planning repository and returns information about the available file and application snapshots.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

This API provides details such as name, type, size and last modified time. Size and last modified are not available for LCM snapshots. See About EPM Automate in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

This REST API is version 11.1.2.3.600.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

GET `/interop/rest/{api_version}/applicationsnapshots`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Example of Request Body

The following shows an example of the request body in JSON format.

```
{
    "status":0,
    "items":[{
        "name":"sample.csv",
        "type":"EXTERNAL",
        "size":"18",
        "lastmodifiedtime":"1422534438000"
        },{
        "name":"snapshot1",
        "type":"LCM",
        "size":null,
        "lastmodifiedtime":null
    }],
    "details":null,
    "links":[{
        "data":null,
        "action":"GET",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots",
        "rel":"self"
    }]
}
```

Response

Table 9-25 Parameters

Name	Description
`Details`	Will be published in case of error with the error string
`Status`	See Migration Status Codes

Table 9-25 (Cont.) Parameters

Name	Description
Items	
Name	Name of the application snapshot
Type	Can be LCM or EXTERNAL Type signifies if this snapshot is for LCM or EXTERNAL. LCM indicates that the file is an LCM snapshot. EXTERNAL indicates that files are not LCM, such as Planning files.
Size	Size of the application snapshot in bytes. Available only for type EXTERNAL
Lastmodifiedtime	Time in Long value as per the last modified time of the file. Available only for type EXTERNAL
Links	Detailed information about the link
Href	Link to API call/ status API
Action	The HTTP call type
Rel	Will be self
Data	Parameters as key value pairs passed in the request

List Files Sample Code

Example 9-15 Java Sample – listFiles.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN - List all the files in PBCS
//
public void listFiles() throws Exception {
    String urlString = String.format("%s/interop/rest/%s/
applicationsnapshots", serverUrl, apiVersion);
    String response = executeRequest(urlString, "GET", null);
    JSONObject json = new JSONObject(response);
    int resStatus = json.getInt("status");
    if (resStatus == 0) {
        if (json.get("items").equals(JSONObject.NULL))
            System.out.println("No files found");
        else {
            System.out.println("List of files :");
            JSONArray itemsArray = json.getJSONArray("items");
            JSONObject jObj = null;
            for (int i=0; i < itemsArray.length(); i++){
                jObj = (JSONObject)itemsArray.get(i);
                System.out.println(jObj.getString("name"));
            }
        }
    }
}
//
```

```
// END - List all the files in PBCS
//
```

Example 9-16 cURL Sample– ListFiles.sh

```
funcListFiles() {
    url=$SERVER_URL/interop/rest/$API_VERSION/applicationsnapshots
    funcExecuteRequest "GET" $url

    list=`cat response.txt | jq 'select(.items != null)
| .items[].name'`
    if [[ ! -z $list ]]; then
        echo $list
    else
        echo "No files found"
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

Example 9-17 Groovy Sample– ListFiles.groovy

```
def listFiles() {
    def url;
    try {
            url = new URL(serverUrl + "/interop/rest/" + apiVersion +
"/applicationsnapshots")
    } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
    }
    response = executeRequest(url, "GET", null);
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == 0 ) {
        def items = object.items
        if (items == null) {
            println "No files found"
        }
        else {
            println "List of files :"
            items.each{
                println it.name
            }
        }
    } else {
        println "Error occurred while listing files"
        if (object.details != null)
                println "Error details: " + object.details
    }
}
```

Prerequisites: json.jar

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

List Files (v2)

This REST API (v2) lists the files in the repository and returns information about the available file and application snapshots.

This API provides details such as name, type, size and last modified time. Size and modified time are not available for LCM snapshots. See About EPM Automate in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

This REST API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

GET `/interop/rest/v2/files/list`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/files/list
```

Response

Table 9-26 Parameters

Name	Description
`Details`	Will be published in case of error with the error string
`Status`	See Migration Status Codes
`Items`	

Table 9-26 (Cont.) Parameters

Name	Description
Name	Name of the file or application snapshot
Type	Can be LCM or EXTERNAL Type signifies if this is an LCM snapshot or not. LCM indicates that the file is an LCM snapshot. EXTERNAL indicates that the file is not an LCM snapshot, such as a Planning file.
Size	Size of the file in bytes. Available only for type EXTERNAL
Lastmodifiedtime	Last modified time of the file in milliseconds since 1970-01-01. Available only for type EXTERNAL
Links	Detailed information about the link
Href	Link to API call/ status API
Action	The HTTP call type
Rel	Will be self
Data	null

Example of Request Body

The following shows an example of the response body in JSON format.

```
{
    "status":0,
    "items":[{
        "name":"sample.csv",
        "type":"EXTERNAL",
        "size":"18",
        "lastmodifiedtime":"1422534438000"
        },{
        "name":"Artifact Snapshot",
        "type":"LCM",
        "size":null,
        "lastmodifiedtime":null
    }],
    "details":null,
    "links":[{
        "data":null,
        "action":"GET",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
files/list",
        "rel":"self"
    }]
}
```

List Files Sample Code

Sample cURL command

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' 'https://
```

```
<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/
rest/v2/files/list'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Delete Files (v11.1.2.3.600)

Use the Delete Files (v11.1.2.3.600) REST API to delete a file from the Planning repository.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

Specify the filename with path separators in percent-encoding format, for example, using `%5C` as the encoded value for `\` (file separator). For a file named `inbox/file1.csv`, pass it as `inbox%5Cfile1.csv`. If you are calling the cURL command to trigger the REST API, you can use a backslash `\` for the path separator without URL encoding. See About EPM Automate in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

This REST API is version 11.1.2.3.600.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

DELETE `/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the request parameters.

Table 9-27 Parameters

Name	Description	Type	Required	Default
api_version	Specific API version	Path	Yes	None
applicationSnapshotName	Application snapshot name that needs to be deleted	Path	Yes	None

Response

Supported Media Types: application/json

Table 9-28 Parameters

Parameters	Description
Details	Published if there is an error with the error string
Status	See Migration Status Codes
Links	Detailed information about the link
Href	Links to the API call
Action	The HTTP call type
Rel	Possible value: self
Data	Parameters as key value pair passed in the request

Example of Response Body

```
{
    "status":0,
    "links":[{
        "data":null,
        "action":"DELETE",
        "rel":"self",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss2"
    }],
    "details":null
}
```

Delete Files Sample Code

Example 9-18 Java Sample – deleteFile.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN - Delete a file in PBCS
//
public void deleteFile(String fileName) throws Exception {
    String urlString = String.format("%s/interop/rest/%s/
applicationsnapshots/%s", serverUrl, apiVersion, fileName);
```

```
    String response = executeRequest(urlString, "DELETE", null);
    JSONObject json = new JSONObject(response);
    int resStatus = json.getInt("status");
    if (resStatus == 0)
        System.out.println("File deleted successfully");
    else
        System.out.println("Error deleting file : " +
json.getString("details"));
}
//
// END - Delete a file in PBCS
//
```

Example 9-19 cURL Sample – DeleteFile.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcDeleteFile() {
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName
    funcExecuteRequest "DELETE" $url

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Deleted successfully"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 9-20 Groovy Sample – DeleteFile.groovy

Prerequisites: json.jar

Common Functions: CSS Common Helper Functions for Groovy

```
def deleteFile(filename) {
    def url;
    try {
        String encodedFileName = URLEncoder.encode(filename, "UTF-8");
        url = new URL(serverUrl + "/interop/rest/" + apiVersion + "/
applicationsnapshots/" + encodedFileName)
    } catch (MalformedURLException e) {
        println "Malformed URL. Please pass valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "DELETE", null);
    def object = new JsonSlurper().parseText(response)
    def status = object.status
```

```
    if (status == 0 )
        println "File deleted successfully"
    else {
        println "Error occurred while deleting file"
        if (object.details != null)
            println "Error details: " + object.details
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Delete Files (v2)

The Delete Files (v2) REST API deletes a file from the repository. This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. This API is backwards compatible.

Filenames that use a backslash \ as path separators must be handled using escape characters, for example, using `\\` as the value for `\` (the file separator). For a file named `inbox\file1.csv`, pass it as `inbox\\file1.csv`.

For more information on deleting files, see EPM Automate Commands in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

Note: To delete files using EPM Groovy rules, use the v11.2.3.600 version of the same API instead of the v2 version.

This REST API is v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

DELETE `/interop/rest/v2/files/delete`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the request parameters.

Table 9-29 Parameters

Name	Description	Type	Required	Default
`fileName`	Application snapshot name that needs to be deleted	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/files/delete
```

```
{
"fileName": "inbox/file1.csv",
 }
```

Response

Supported Media Types: `application/json`

Table 9-30 Parameters

Parameters	Description
`Details`	Published if there is an error with the error string
`Status`	See Migration Status Codes
`Links`	Detailed information about the link
`Href`	Links to the API call
`Action`	The HTTP call type
`Rel`	Possible value: `self`
`Data`	Parameters as key value pair passed in the request

Example of Response Body

```
{
    "status":0,
    "links":[{
        "data":null,
        "action":"DELETE",
        "rel":"self",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/files/
delete"
    }],
    "details":null
}
```

Sample cURL command

```
curl -X DELETE -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"fileName":"FILE_TO_BE_DELETED"}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
files/delete'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Delete Files (v3)

The Delete Files (v3) REST API deletes a file from the repository. This topic describes the simplified v3 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v3 API easier to use. This API is backwards compatible.

Filenames that use a backslash \ as path separators must be handled using escape characters; for example, using `\\` as the value for `\` (the file separator). For a file named `inbox\file1.csv`, pass it as `inbox\\file1.csv`.
For more information on deleting files, see EPM Automate Commands in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

This API is v3.

Required Roles
Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/v3/files/delete`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the request parameters.

Table 9-31 Parameters

Name	Description	Type	Required	Default
fileName	File name to delete	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v3/files/delete
```

```
{
"fileName": "inbox/file1.csv",
 }
```

Response

Supported Media Types: `application/json`

Table 9-32 Parameters

Parameters	Description
Details	Published if there is an error with the error string
Status	See Migration Status Codes
Links	Detailed information about the link
Href	Links to the API call
Action	The HTTP call type
Rel	Possible value: `self`
Data	Parameters as key value pair passed in the request

Example Response Body

```
{
    "status":0,
    "links":[{
        "data":null,
        "action": "POST",
        "rel":"self",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v3/files/
delete"
    }],
    "details":null
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"fileName":"FILE_TO_BE_DELETED"}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
v3/files/delete'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Manage Services

You can manage all available services using the following REST resources.

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-33 Manage Services

Task	Request	REST Resource
Get Information About All Services	GET	`/interop/rest/{api_version}/services`
Get Idle Session Timeout	GET	`/interop/rest/{api_version}/config/services/idlesessiontimeout`
Set Idle Session Timeout	PUT	`/interop/rest/{api_version}/config/services/idlesessiontimeout`
Restart the Service Instance (v1)	POST	`/interop/rest/{api_version}/services/{service_type}/resetservice`
Restart the Service Instance (v2)	POST	`/interop/rest/v2/config/services/reset`
Run Recreate on a Service (11.1.2.3.600)	GET	`/interop/rest/{api_version}/services/{servicename}/recreate`
Run Recreate on a Service (v2)	POST	`/interop/rest/v2/config/services/recreate`

Get Information About All Services

Returns information about all services that you can perform in a Planning environment.

This API is version 11.1.2.3.600.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/{api_version}/services`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Response

Supported Media Types: `application/json`

Table 9-34 Parameters

Name	Description
`api_version`	Specific API version
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`details`	In case of error, details are published with the error string
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self`, `PBCS recreate service`, `PBCS reset service` - details are for `PBCS recreate service`
`data`	Parameters as key value pair passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "details":null,
    "status":0,
    "links":[{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
services",
```

```
        "rel":"self",
        "data":null,
        "action":"GET"
        },{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/services/PBCS/recreate",
        "rel":"PBCS recreate service",
        "data":null,
        "action":"POST"
    },{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/services/PBCS/resetservice",
        "rel":"PBCS reset service",
        "data":null,
        "action":"POST"
    }]
}
```

Get Information About All Services Sample Code

Java Sample – getInfoAboutAllServices.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN - Get services
//
public void getServices() throws Exception {
    String urlString = String.format("%s/interop/rest/%s/services",
serverUrl, apiVersion);
    String response = executeRequest(urlString, "GET", null);
    JSONObject json = new JSONObject(response);
    int resStatus = json.getInt("status");
    if (resStatus == 0) {
        JSONArray linksArray = json.getJSONArray("links");
        System.out.println("Services list :");
        JSONObject jObj = null;
        for(int i=0; i < linksArray.length(); i++){
            jObj = (JSONObject)linksArray.get(i);
            System.out.println("Service :" + jObj.getString("rel"));
            System.out.println("URL :" + jObj.getString("href"));
            System.out.println("Action :" + jObj.getString("action") +
"\n");
        }
    }
}
//
// END - Get services
//
```

cURL Sample – GetInfoAboutAllServices.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcGetServices() {
    url=$SERVER_URL/interop/rest/$API_VERSION/services
    funcExecuteRequest "GET" $url

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Services list :"
        count=`echo $output | jq '.links | length'`
        i=0
        while [ $i -lt $count ]; do
            rel=`echo $output | jq '.links['$i'].rel'`
            rel=`echo "$rel" | tr -d "\""`
            if [ "$rel" != "self" ]; then
                echo "Service : " `echo $output | jq '.links['$i'].rel'`
                echo "URL :" `echo $output | jq '.links['$i'].href'`
                echo "Action :" `echo $output | jq '.links['$i'].action'`
                echo ""
            fi
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – GetInfoAboutAllServices.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def getServices() {
    def url;
    try {
        url = new URL(serverUrl + "/interop/rest/" + apiVersion + "/
services")
    } catch (MalformedURLException e) {
        println "Malformed URL. Please pass valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "GET", null);
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == 0 ) {
        def links = object.links
        println "Services list :"
        links.each{
            if(!it.rel.equals("self")) {
```

```
                println "Service : " + it.rel
                println "URL : " + it.href
                println "Action : " + it.action + "\n"
            }
        }
    } else {
        println "Error occurred while fetching services list"
        if (object.details != null)
            println "Error details: " + object.details
    }
}
```

Get Idle Session Timeout

Returns the session timeout (in minutes) of the Oracle Enterprise Performance Management Cloud environment. After a session is idle for this duration, users are redirected to the Login page.

This API is version v2.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/{api_version}/config/services/idlesessiontimeout`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Table 9-35 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version (v2)	Path	Yes	None

Response

Supported Media Types: `application/json`

Table 9-36 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	• 0 - Operation success • +ve - Operation failed, with the status signifying an error
timeout	Session Timeout value in minutes
href	Link to API call
action	HTTP call type
rel	Possible value: self
data	null

Example of Response Body

```
{
       "details": null,
       "links": [{
              "rel": "self",
              "href": "<uri>/interop/rest/v2/config/services/
idlesessiontimeout",
              "data": "null",
              "action": "GET"
       }],
       "status": "0",
       "items": [{
              "timeout": "30"
       }]
}
```

Sample cURL command

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt -
H
'Content-Type: application/json'  'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/config/
services/idlesessiontimeout '
```

Set Idle Session Timeout

Changes the session timeout (in minutes) of the Oracle Enterprise Performance Management Cloud environment. The new session timeout becomes active after the next daily maintenance of the environment.

Use this API to change the default session timeout (75 minutes) to a different value. After a session is idle for the duration specified using this API, the user is redirected to the Login page.

This API is version v2.

Required Roles

Service Administrator

REST Resource

PUT `/interop/rest/{api_version}/config/services/idlesessiontimeout`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Table 9-37 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version (v2)	Path	Yes	None
`timeout`	Session timeout value	Payload	Yes	None

Example of Request Body

```
{
  "timeout": "30"
}
```

Response

Supported Media Types: `application/json`

Table 9-38 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	• 0 - Operation success • +ve - Operation failed, with the status signifying an error
`href`	Link to API call
`action`	HTTP call type
`rel`	Possible value: `self`
`data`	null

Example of Response Body

```
{
       "links": [{
```

```
            "rel": "self",
            "href": "<uri>/interop/rest/v2/config/services/
idlesessiontimeout",
            "data": null,
            "action": "PUT"
        }],
        "details": "null",
        "status": 0,
        "items": null
}
```

Sample cURL command

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt -
H
'Content-Type: application/json' -d '{"timeout":"30"}' 'https://
<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/config/
services/idlesessiontimeout
```

Restart the Service Instance (v1)

Use the Restart the Service Instance (v1) REST API to restart the service instance with a REST API.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

You can also use an optional AutoTune parameter to auto-tune the environment before restarting it to ensure that Essbase index caches for Block Storage Option (BSO) cubes are optimized for your application.

This API is version v1.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/{api_version}/services/{service_type}/resetservice`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Payload: `JSON`

Table 9-39 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`service_type`	Value for the service type. Service type can be one of the following: `PBCS` for Planning and Budgeting, `EPBCS` for Enterprise Planning and Budgeting, `FCCS` for Financial Consolidation and Close, `TRCS` for Tax Reporting, `EDMCS` for Enterprise Data Management, `PCMCS` for Profitability and Cost Management, or `ARCS` for Account Reconciliation.	Path	Yes	None
`comment`	Comment about executing the restart	Payload	Yes	None
`autotune`	If set to `true`, runs the auto tune algorithm before the restart. This ensures that Essbase index caches for BSO cubes are optimized for your application.	Payload	No	false

Example of Request Body

```
{
  "comment": "Reset requested by Administrator",
  "autotune": "true"
}
```

Response

Table 9-40 Parameters

Name	Description
`Details`	In case of errors, details are published with the error string
`Status`	See Migration Status Codes
`Links`	Detailed information about the link
`Href`	Links to API call or status API
`Action`	The HTTP call type
`Rel`	Possible values: `self` and/or `Job Status`. If the value is set to Job Status, you can use the href to get the status of the reset service
`Data`	Parameters as key value pairs passed in the request

The following is an example of the response body in JSON format for Planning.

```
{
    "details":null,
    "status":0,
    "links":[{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/services/
PBCS/resetservice",
        "rel":"self",
        "data":null,
        "action":"POST"
        },{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/services/
PBCS/resetservice/777",
        "rel":"Job Status",
        "data":null,
        "action":"GET"
    }]
}
```

Restart the Service Sample Code

Example 9-21 Java Sample – ResetServices.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN - Reset services
//
public void hardReset(String comment) throws Exception {
    Scanner in = new Scanner(System.in);
    System.out.println("Are you sure you want to restart the service
instance (yes/no): no ?[Press Enter]");
    String s = in.nextLine();
    if (!s.equals("yes")) {
        System.out.println("User cancelled the reset command");
        System.exit(0);
    }

    JSONObject params = new JSONObject();
    params.put("comment",java.net.URLEncoder.encode(comment));
      params.put("autotune","true");
    String urlString = String.format("%s/interop/rest/%s/services/PBCS/
resetservice", serverUrl, lcmVersion);
    String response = executeRequest(urlString, "POST", params.toString(),
"application/json");
    getJobStatus(fetchPingUrlFromResponse(response, "Job Status"),"GET");
}
//
// END - Reset services
//
```

Example 9-22 cURL Sample – ResetServices.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcHardReset() {
    echo "Are you sure you want to restart the service instance (yes/
no): no ?[Press Enter] "
    read toCreate
    if [ $toCreate != "yes" ]; then
        echo "User cancelled the reset command"
        exit 0
    fi

    url=$SERVER_URL/interop/rest/$LCM_VERSION/services/PBCS/
resetservice
    comment=$(echo $1 | sed -f urlencode.sed)
    param="{\"comment\":\"$comment\",\"autotune\":\"true\"}"
    funcExecuteRequest "POST" $url $param "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started hard reset succesfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 9-23 Groovy Sample – ResetServices.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def hardReset(comment) {
    def userInput = System.console().readLine 'Are you sure you want
to restart the service instance (yes/no): no ?[Press Enter] '
    if (userInput.equals("yes")) {
        def url;
        JSONObject params = new JSONObject();
        try {
            params.put("comment",comment);
            params.put("autotune","true");
            url = new URL(serverUrl + "/interop/rest/" + lcmVersion +
"/services/PBCS/resetservice");
        } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
        }
        response = executeRequest(url, "POST", params.toString(),
"application/json");
```

```
        response = executeRequest(url, "POST", payload);
        if (response != null) {
            getJobStatus(fetchPingUrlFromResponse(response, "Job
Status"),"GET");
        }
    } else {
        println "User cancelled the resetservice command"
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Restart the Service Instance (v2)

Use the Restart the Service Instance (v2) REST API to restart the service instance.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. This API is backwards compatible.

You can also use an optional AutoTune parameter to auto-tune the environment before restarting it to ensure that Essbase index caches for Block Storage Option (BSO) cubes are optimized for your application.

This REST API is version v2.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v2/config/services/reset`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Payload: `JSON`

Table 9-41 Parameters

Name	Description	Type	Required	Default
api_version	Specific API version	Path	Yes	None
comment	Comment about executing the restart	Payload	Yes	None
autotune	If set to true, runs the auto tune algorithm before the restart. This ensures that Essbase index caches for BSO cubes are optimized for your application.	Payload	No	false

Example of Request Body

```
{
  "comment": "Reset requested by Administrator",
  "parameters": {
     "autotune": "false"
  }
}
```

Response

Table 9-42 Parameters

Name	Description
Details	In case of errors, details are published with the error string
Status	See Migration Status Codes
Links	Detailed information about the link
Href	Links to API call or status API
Action	The HTTP call type
Rel	Possible values: self and/or Job Status. If the value is set to Job Status, you can use the href to get the status of the reset service
Data	Parameters as key value pairs passed in the request

Example of Response Body in JSON Format

```
{
    "details": null,
    "status": 0,
    "links": [{
        "href": "https://<URL>/interop/rest/v2/config/services/reset",
        "rel": "self",
        "data": null,
        "action": "POST"
    },
    {
        "href": "https://<URL>/interop/rest/v2/config/status/service/
hardreset/1",
        "rel": "Job Status",
```

```
        "data": null,
        "action": "GET"
    }]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H 'Content-Type: application/json' -d ' {"comment":"<COMMENT>","parameters":
{"autotune":"false"}}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/config/
services/reset'
```

Sample cURL code

```
#!/bin/sh

USERNAME="<USERNAME>"
PASSWORD="<PASSWORD>"
SERVER_URL="<SERVICE_URL>"

APP_NAME="Vision"
API_VERSION="v2"

funcRemoveTempFiles() {
    for var in "$@"
    do
        if [ -f $var ]; then
            rm $var
        fi
    done
}

funcPrintErrorDetails() {
    contentType=`echo $(grep 'Content-Type:' respHeader.txt) | tr -d
[:space:]`
    if [ ! -z $contentType ] && [[ $contentType = *"application/json"* ]];
then
        output=`cat $1`
        error=`echo $output | jq '.details'`
        echo "Error details: " $error
    fi
}

funcExecuteRequest() {
    if [ ! -z "$4" ]; then
        statusCode=`curl -X $1 -s -w "%{http_code}" -u "$USERNAME:$PASSWORD"
-o "response.txt" -D "respHeader.txt" -H "Content-Type: $4" -d "$3" $2`
    else
        statusCode=`curl -X $1 -s -w "%{http_code}" -u "$USERNAME:$PASSWORD"
-o "response.txt" -D "respHeader.txt" -H "Content-Type: $3" $2`
    fi

    if [ $statusCode != 200 ]; then
```

```
        echo "Error executing request"
        if [ $statusCode != 000 ]; then
            echo "Response error code : " $statusCode
            funcPrintErrorDetails "response.txt"
            funcRemoveTempFiles "respHeader.txt" "response.txt"
        fi
        exit 0
    fi
}

funcGetStatus() {
    output=`cat response.txt`
    count=`echo $output | jq '.links | length'`
    i=0
    pingUrl=""

    while [ $i -lt $count ]; do
        rel=`echo $output | jq '.links['$i'].rel'`
        rel=`echo "$rel" | tr -d "\""`
        if [ "$rel" == "Job Status" ]; then
                pingUrl=`echo $output | jq '.links['$i'].href'`
                pingUrl=`echo "$pingUrl" | tr -d "\""`
        fi
        i=`expr $i + 1`
    done

    echo $pingUrl
    completed="false"

    while [ $completed != "true" ]; do
        statusCode2=`curl -X $1 -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o "pingResponse.txt"  -H "Content-Type:
application/json" "$pingUrl"`
        if [ $statusCode2 == 200 ]; then
            status2=`jq '.status' pingResponse.txt`
            if [ $status2 != -1 ]; then
                completed="true"
                echo "Job completed"
            else
                echo "Please wait..."
                sleep 20
            fi
        else
            echo "Please wait..."
            sleep 20
        fi
        funcRemoveTempFiles "pingResponse.txt"
    done
}

funcHardReset() {
    echo "Are you sure you want to restart the service instance (yes/
no): no? [Press Enter] "
    read toReset
    if [ $toReset != "yes" ]; then
```

```
        echo "User cancelled the reset command"
        exit 0
    fi

    url=$SERVER_URL/interop/rest/$API_VERSION/config/services/reset
    comment=$(echo $1)
    param="{\"comment\":\"${comment}\",\"parameters\":
{\"autotune\":\"false\"}}"
    funcExecuteRequest "POST" "$url" "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`

    if [ "${status}" == -1 ]; then
        echo "Started hard reset succesfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi

    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcRecreateService() {

    removeAll=$1
    essbaseChange=$2
    tempServiceType=$3

    echo "Are you sure you want to recreate the EPM environment (yes/no):
no? [Press Enter] "
    read toCreate

    if [ $toCreate != "yes" ]; then
        echo "User cancelled the recreate command"
        exit 0
    fi

    url=$SERVER_URL/interop/rest/$API_VERSION/config/services/recreate
    param="{\"parameters\":{\"removeAll\":\"${removeAll}
\",\"essbaseChange\":\"${essbaseChange}\", \"tempServiceType\":\"$
{tempServiceType}\"}}"

    funcExecuteRequest "POST" "$url" "$param" "application/json"
    output=`cat response.txt`
    status=`echo $output | jq '.status'`

    if [ $status == -1 ]; then
        echo "Started recreating the environment successfully"
                funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
```

```
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

if [[ "$#" != "1" ]]; then
    echo "Mandatory argument missing"
    echo "Usage: EPMRestSamples <option>"
    echo "  where <option> is -recreate or -reset"
    exit 1
fi

if [ "${1}" == "-reset" ]; then
    funcHardReset "POC Exit Criteria Check - cURL"
elif [ "${1}" == "-recreate" ]; then
    funcRecreateService "false" "default" ""
else
    echo "Incorrect usage"
    echo "Usage: EPMRestSamples <option>"
    echo "  where <option> is -recreate or -reset"
    exit 1
fi
```

Sample Java Code

```
package com.oracle.test;

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.io.OutputStreamWriter;
import java.net.HttpURLConnection;
import java.net.URL;
import java.util.Scanner;
import java.util.Base64;

import org.json.JSONArray;
import org.json.JSONObject;


/*
 * EPM Rest Samples.
 * The userName variable uses the format <domain>.<username>.
 */
public class EPMRestSamples {

    private String userName;            // EPMCloud user name
    private String password;            // EPMCloud user password
    private String serverUrl;           // EPMCloud server URL
    private String apiVersion="v2";     // Version of the EPMCloud
Rest API

    private long startTime;
    private long endTime;
```

```
    private long maxLoopTime=(60 * 60 * 1000);

    public static void main(String[] args) {
        try {

            if(null == args || args.length != 1) {
                System.err.println("Mandatory argument missing");
                System.err.println("Usage: EPMRestSamples <option>");
                System.err.println("  where <option> is -recreate or -
reset");
                System.exit(1);
            }

            // TODO: Use appropriate username, password, and URL
            EPMRestSamples samples = new EPMRestSamples(
                "<USERNAME>", "<PASSWORD>","<SERVICE_URL>");

            String option = args[0];
            if("-reset".equalsIgnoreCase(option)) {
                samples.hardReset("POC Exit Criteria Check - Java");
            }
            else if("-recreate".equalsIgnoreCase(option)) {
                samples.recreateService("false", "default", "");
            }
            else {
                System.err.println("Incorrect usage");
                System.err.println("Usage: EPMRestSamples <option>");
                System.err.println("  where <option> is -recreate or -
reset");
                System.exit(1);
            }
        }
        catch (Throwable x) {
            System.err.println("Error: " + x.getMessage());
        }
    }

    public EPMRestSamples(String userName, String password, String
serverUrl) throws Exception {
        this.userName = userName;
        this.password = password;
        this.serverUrl = serverUrl;
    }

    private String getStringFromInputStream(InputStream is) {
        BufferedReader br = null;
        StringBuilder sb = new StringBuilder();
        String line;

        try {
            br = new BufferedReader(new InputStreamReader(is));
            while ((line = br.readLine()) != null) {
                sb.append(line);
            }
        }
```

```
        catch (IOException e) {
            e.printStackTrace();
        }
        finally {
            if (br != null) {
                try { br.close(); }
                catch (IOException e) { e.printStackTrace(); }
            }
        }
        return sb.toString();
    }

    private String executeRequest(String urlString, String
requestMethod, String payload, String contentType) throws Exception {
        HttpURLConnection connection = null;
        try {
            URL url = new URL(urlString);
            Base64.Encoder encoder = Base64.getEncoder();
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod(requestMethod);
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty("Authorization", "Basic " +
encoder.encodeToString((userName + ":" + password).getBytes()));
            connection.setRequestProperty("Content-Type", contentType);

            if (payload != null) {
                OutputStreamWriter writer = new
OutputStreamWriter(connection.getOutputStream());
                writer.write(payload);
                writer.flush();
            }

            int status = connection.getResponseCode();
            if (status == 200 || status == 201) {
                return
getStringFromInputStream(connection.getInputStream());
            }

            throw new Exception("Http status code: " + status);
        }
        finally {
            if (connection != null) { connection.disconnect(); }
        }
    }

    private void getJobStatus(String pingUrlString, String methodType)
throws Exception {
        boolean completed = false;

        while (!completed) {

            String pingResponse = null;
```

```
            try {
                pingResponse = executeRequest(pingUrlString, methodType,
null, "application/json");
            }
            catch (Exception e) {
                if(e instanceof java.net.ConnectException || e instanceof
java.net.SocketException) {
                    if(System.currentTimeMillis()<endTime) {
                        System.out.println("Processing. Please wait...");
                        Thread.sleep(60000);
                        continue;
                    }
                    throw new Exception("Command timeout..");
                }
                throw e;
            }

            JSONObject json = new JSONObject(pingResponse);
            int status = json.getInt("status");

            if (status == -1) {
                try {
                    System.out.println("Processing. Please wait...");
                    Thread.sleep(20000);
                }
                catch (InterruptedException ie) {
                    completed = true;
                    throw ie;
                }
            }
            else {
                if (status > 0) {
                    System.out.println("Error occurred: " +
json.getString("details"));
                }
                else {
                    System.out.println("Execution completed successfully");
                }
                completed = true;
            }
        }
    }

    public String fetchPingUrlFromResponse(String response, String retValue)
throws Exception {
        String pingUrlString = null;
        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");

        if (resStatus == -1) {
            JSONArray lArray = jsonObj.getJSONArray("links");
            for (int i = 0; i < lArray.length(); i++) {
                JSONObject arr = lArray.getJSONObject(i);
                if (arr.get("rel").equals(retValue))
                    pingUrlString = (String) arr.get("href");
```

```
            }
        }

        return pingUrlString;
    }

    public void hardReset(String comment) throws Exception {
        Scanner in = new Scanner(System.in);
        System.out.print("Are you sure you want to restart the service
instance (yes/no): no? [Press Enter] ");
        String s = in.nextLine();

        if (!s.equals("yes")) {
            System.out.println("User cancelled the recreate command");
            System.exit(0);
        }

        JSONObject params = new JSONObject();
        params.put("comment",comment);
        JSONObject innerParams = new JSONObject();
        innerParams.put("autotune","true");
        params.put("parameters",innerParams);

        String urlString = String.format("%s/interop/rest/%s/config/
services/reset", serverUrl, apiVersion);
        startTime=System.currentTimeMillis();
        endTime = startTime+maxLoopTime;
        String response = executeRequest(urlString, "POST",
params.toString(), "application/json");
        getJobStatus(fetchPingUrlFromResponse(response, "Job
Status"),"GET");
    }

    public void recreateService(String removeAll, String
essbaseChange, String tempServiceType) throws Exception {
        Scanner in = new Scanner(System.in);
        System.out.print("Are you sure you want to recreate the EPM
environment (yes/no): no ?[Press Enter] " );
        String s = in.nextLine();

        if (!s.equals("yes")) {
            System.out.println("User cancelled the recreate command");
            System.exit(0);
        }

        JSONObject params = new JSONObject();
        JSONObject innerParams = new JSONObject();

        innerParams.put("tempServiceType", tempServiceType);
        innerParams.put("essbaseChange", essbaseChange);
        innerParams.put("removeAll", removeAll);
        params.put("parameters", innerParams);

        String urlString = String.format("%s/interop/rest/%s/config/
services/recreate", serverUrl, apiVersion);
```

```
        startTime=System.currentTimeMillis();
        endTime = startTime+maxLoopTime;
        String response = executeRequest(urlString, "POST",
params.toString(), "application/json");
        getJobStatus(fetchPingUrlFromResponse(response, "Job Status"),
"GET");
    }
}
```

Sample Groovy Code

```
package com.groovy

import org.json.JSONObject
import groovy.json.JsonSlurper

// TODO: Use appropriate username, password, and url
username="<USERNAME>"
password="<PASSWORD>"
serverUrl="<SERVICE_URL>"

endTime=0
maxLoopTime=(60 * 60 * 1000)

apiVersion = "v2"
userCredentials = username + ":" + password
basicAuth = "Basic " + userCredentials.bytes.encodeBase64().toString()

def getResponse(is) {
    BufferedReader br = new BufferedReader(new InputStreamReader(is))
    StringBuilder sb = new StringBuilder()
    String line

    while ((line = br.readLine()) != null) {
        sb.append(line+"\n")
    }

    br.close()
    return sb.toString()
}

def getJobStatus(pingUrlString, methodType) {
    def pingUrl = new URL(pingUrlString)
    def completed = false

    while (!completed) {
        try {
            pingResponse = executeRequest(pingUrl, methodType, null,
"application/json")
        }
        catch(exp) {
            if(exp instanceof java.net.ConnectException || exp instanceof
java.net.SocketException) {
                if(System.currentTimeMillis()<endTime) {
```

```
                println("Processing. Please wait...")
                Thread.sleep(60000)
                continue
            }
            throw new Exception("Command timeout..")
        }
    }

    status = getJobStatusFromResponse(pingResponse)
    if (status == "Processing") {
        try {
            println "Processing. Please wait..."
            Thread.sleep(5000)
        }
        catch (InterruptedException e) {
            completed = true
        }
    }
    else {
        println "Execution completed successfully"
        completed = true
    }
  }
}

def getJobStatusFromResponse(response) {
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == -1) { return "Processing" }
    else if (status == 0) { return "Completed" }
    else { return object.details }
}

def executeRequest(url, requestType, payload, contentType) throws
Exception {
    HttpURLConnection connection = (HttpURLConnection)
url.openConnection()
    connection.setDoOutput(true)
    connection.setInstanceFollowRedirects(false)
    connection.setRequestMethod(requestType)
    connection.setRequestProperty("Content-Type", contentType)
    connection.setRequestProperty("Authorization", basicAuth)
    connection.setUseCaches(false)

    if (payload != null) {
        OutputStreamWriter writer = new
OutputStreamWriter(connection.getOutputStream())
        writer.write(payload)
        writer.flush()
    }

    int statusCode
    try { statusCode = connection.responseCode }
    catch (all) { throw all }
```

```
    def response
    if (statusCode == 200 || statusCode == 201) {
        if (connection.getContentType() != null && !
connection.getContentType().startsWith("application/json")) {
            println "Error occurred in server"
            System.exit(0)
        }
        InputStream is = connection.getInputStream()
        if (is != null) { response = getResponse(is) }
    }
    else {

        if (statusCode == 503) {
            throw new Exception("Service Unavailable")
        }

        InputStream is = connection.getErrorStream()
        if (is != null && connection.getContentType() != null &&
            connection.getContentType().startsWith("application/json")) {
            println getJobStatusFromResponse(getResponse(is))
        }
    }

    connection.disconnect()
    return response
}

def getUrlFromResponse(scenario, response, relValue) {
    def object = new JsonSlurper().parseText(response)
    def pingUrlStr
    if (object.status == -1) {
        println "Started - " + scenario
        def links = object.links
        links.each{
            if (it.rel.equals(relValue)) {
                pingUrlStr=it.href
            }
        }
    }
    else {
        println "Error details: " + object.details
        System.exit(0)
    }
    return pingUrlStr
}

def hardReset(comment) {

    def scenario = "Hard reset"
    def toReset = System.console().readLine 'Are you sure you want to
restart the service instance (yes/no): no? [Press Enter] '

    if (!toReset.equals("yes")) {
        println "User cancelled the resetService command"
        System.exit(0)
```

```
    }

    def url
    JSONObject params = new JSONObject()
    JSONObject innerParams = new JSONObject()

    try {
        params.put("comment", comment)
        innerParams.put("autotune","true")
        params.put("parameters",innerParams)
        url = new URL(serverUrl+"/interop/rest/" + apiVersion + "/
config/services/reset")
    }
    catch (MalformedURLException e) {
        println "Malformed URL. Please pass valid URL"
        System.exit(0)
    }

    endTime=System.currentTimeMillis() +maxLoopTime
    response = executeRequest(url, "POST", params.toString(),
"application/json")

    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"),"GET")
    }
}

def recreateService(removeall,essabaseoption,tempServiceType) {

    def scenario="Recreate"
    def toCreate = System.console().readLine 'Are you sure you want to
recreate the EPM environment (yes/no): no? [Press Enter] '
    if (!toCreate.equals("yes")) {
        println "User cancelled the recreate command"
        System.exit(0)
    }

    def url
    JSONObject params = new JSONObject()
    JSONObject innerParams = new JSONObject()

    try {
        innerParams.put("tempServiceType", tempServiceType)
        innerParams.put("essbaseChange", essabaseoption)
        innerParams.put("removeAll", removeall)
        params.put("parameters", innerParams)
        url = new URL(serverUrl + "/interop/rest/" + apiVersion + "/
config/services/recreate")
    }
    catch (MalformedURLException e) {
        println "Malformed URL. Please pass valid URL"
        System.exit(0)
    }
```

```
    endTime=System.currentTimeMillis() +maxLoopTime
    response = executeRequest(url, "POST", params.toString(), "application/
json")

    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"),"GET")
    }
}

if(this.args == null || this.args.length != 1) {
    println "Mandatory argument missing"
    println "Usage: EPMRestSamples <option>"
    println "  where <option> is -recreate or -reset"
    System.exit(1)
}

def option = this.args[0]

if("-reset".equalsIgnoreCase(option)) {
    hardReset("POC Exit Criteria Check - Groovy");
}
else if("-recreate".equalsIgnoreCase(option)) {
    recreateService("false", "default", "");
}
else {
    println "Incorrect usage"
    println "Usage: EPMRestSamples <option>"
    println "  where <option> is -recreate or -reset"
    System.exit(1)
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Run Recreate on a Service (11.1.2.3.600)

The Run Recreate on a Service (v11.1.2.3.600) REST API restores an environment to a clean state by recreating the deployment.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

You re-create the deployment to complete these tasks:

- Clean up an environment before importing a full snapshot.
- Change the business process that can be deployed in an environment.

- Change the Essbase version in use in Oracle Enterprise Performance Management Cloud environments other than Narrative Reporting, Oracle Enterprise Data Management Cloud, and Account Reconciliation, which do not use Essbase.
  By default, EPM Standard Cloud Service and EPM Enterprise Cloud Service environments are deployed with Hybrid-enabled Essbase, while legacy environments are deployed with Non-Hybrid Essbase. Downgrading the deployment of Hybrid-enabled Essbase in EPM Standard Cloud Service and EPM Enterprise Cloud Service environments is required, if you are importing a snapshot from an environment that has a Non-Hybrid Essbase version. Upgrading the deployment of Non-Hybrid Essbase in legacy environments is required to:
  - Support the extended dimensionality in existing legacy Financial Consolidation and Close environments
  - Enable hybrid block storage (BSO) applications in legacy Enterprise Planning and Planning Modules environments

  For detailed information about Hybrid Essbase and the considerations for upgrading to Hybrid Essbase, see About Essbase in EPM Cloud in *Getting Started with Oracle Enterprise Performance Management Cloud for Administrators*.

Caution:

- **This API deletes the existing application and, optionally, all user defined artifacts from the environment. Additionally, it re-creates the database and removes all existing data. After recreating the service, you can create a new business process or import one using REST APIs, Migration, or EPM Automate**.
- **This API deletes migration history. As a result, the Migration Status Report available in Migration will not contain historic information**.
- **Before using this API, perform a complete backup of the environment. You can create a backup snapshot by executing runDailyMaintenance**.

This API is version 11.1.2.3.600.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/{api_version}/services/{servicename}/recreate`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/x-www-form-urlencoded`

Table 9-43 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`servicename`	Name of the service for which recreate needs to be run, such as PBCS	Path	Yes	None
`tempServiceType`	Optionally, convert an environment to a different service environment. The business processes that you can deploy in an environment is governed by the type of subscription that you have. For example, if you have an EPM Standard Cloud Service subscription, you cannot create a FreeForm application after converting the environment from Account Reconciliation to Planning. If you have an EPM Enterprise Cloud Service subscription, you can create any business process in your environment after changing the service type appropriately. See "About the New EPM Cloud Services" in Getting Started with Oracle Enterprise Performance Management Cloud for Administrators. The behavior of this parameter is dependent on your subscription. For details and examples, see Recreate in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*. Acceptable `tempServiceType` values: • ARCS to convert an environment to an Account Reconciliation environment • EDMCS to convert an environment to an Oracle Enterprise Data Management Cloud environment • EPRCS to convert an environment to a Narrative Reporting environment • PCMCS to convert an environment to a Profitability and Cost Management Cloud environment • PBCS to convert a Profitability and Cost Management environment to a Planning, Enterprise Planning, or Enterprise Profitability and Cost Management environment **Note**: You can create a Tax Reporting or Financial Consolidation and Close application in a new Planning environment. You do not need to change the service type of the environment. When you run this REST API with `tempserviceType`, the `serviceType` change can be verified by making a REST call to `/interop/rest`.	Payload	No	None
`removeAll`	If set to `true`, deletes all the snapshots and the content of the Inbox and Outbox folders	Payload	No	None

Table 9-43 (Cont.) Parameters

Name	Description	Type	Required	Default
essbaseChange	Optionally, upgrade or downgrade the current Essbase version. The REST API retains the current Essbase version if you do not specify this option. Permissible values are: • upgrade to change from Non-Hybrid Essbase to Hybrid Essbase • downgrade to change from Hybrid Essbase to Non-Hybrid Essbase **Caution**: Before using this option, read and understand the information available in About Essbase in EPM Cloud in *Getting Started with Oracle Enterprise Performance Management Cloud for Administrators*.	Payload	No	None

Response

Table 9-44 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: self and/or Job Status. If the value is set to Job Status, you can use the href to get the status of the recreate service
data	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "details":null,
    "status":0,
    "links":[{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/services/PBCS/recreate",
        "rel":"self",
        "data":null,
        "action":"POST"
        },{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/services/PBCS/recreate/777",
```

```
        "rel":"Job Status",
        "data":null,
        "action":"GET"
    }]
}
```

Run Recreate on a Service Sample Code

Example 9-24 Java Sample – runRecreateOnAService.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN - Recreate services
//
public void recreateService(String serviceName, String serviceType, String
removeAll, String essbaseChange) throws Exception {
    Scanner in = new Scanner(System.in);
    System.out.println("Are you sure you want to recreate the EPM
environment (yes/no): no ?[Press Enter]");
    String s = in.nextLine();
    if (!s.equals("yes")) {
        System.out.println("User cancelled the recreate command");
        System.exit(0);
    }



JSONObject params = new JSONObject();
//params.put("tempServiceType", serviceType);
params.put("removeAll", removeAll);
params.put("essbaseChange", essbaseChange);
    String parameters = "parameters="+ URLEncoder.encode(params.toString(),
"UTF-8");
    String urlString = String.format(               "%s/interop/rest/%s/
services/%s/recreate", serverUrl, apiVersion, serviceName);
    String response = executeRequest(urlString, "POST", parameters,
"application/x-www-form-urlencoded");
    getJobStatus(fetchPingUrlFromResponse(response, "Job Status"),"GET");
}

//
// END - Recreate services
//
```

Example 9-25 cURL Sample – RunRecreateOnAService.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcRecreateService() {
        echo "Are you sure you want to recreate the EPM environment (yes/
```

```
no): no ?[Press Enter]"
        read toCreate
        if [ $toCreate != "yes" ]; then
                echo "User cancelled the recreate command"
                exit 0
        fi

        url=$SERVER_URL/interop/rest/$API_VERSION/services/EPM/recreate
        json=$(echo
"{\"removeAll\":\"true\",\"essbaseChange\":\"upgrade\"}" | sed -f
urlencode.sed)
        param="parameters=$json"
        funcExecuteRequest "POST" $url $param "application/x-www-form-
urlencoded"
        output=`cat response.txt`
        status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started recreating the environment successfully"
                funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
        funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 9-26 Groovy Sample – RunRecreateOnAService.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def recreateService(serviceName) {
    def toCreate = System.console().readLine 'Are you sure you want to
recreate the EPM environment (yes/no): no ?[Press Enter]'
    if (!toCreate.equals("yes")) {
        println "User cancelled the recreate command"
        System.exit(0)
    }
    def url;
    JSONObject params = new JSONObject();
    try {
            //params.put("tempServiceType",serviceType);
          params.put("removeAll", "true");
          params.put("essbaseChange", "upgrade");
        url = new URL(serverUrl + "/interop/rest/" + apiVersion + "/
services/" + serviceName + "/recreate");
    } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
    }
    response = executeRequest(url, "POST",
"parameters="+param.toString(), "application/x-www-form-urlencoded");
    if (response != null) {
        getJobStatus(response,"GET");
```

```
        }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Run Recreate on a Service (v2)

Use the Run Recreate on a Service (v2) REST API to restore an environment to a clean state by recreating the deployment.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. This API is backwards compatible.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See About the REST APIs. Using this REST API requires prerequisites. See Prerequisites.

You re-create the deployment to complete these tasks:

- Clean up an environment before importing a full snapshot.
- Change the business process that can be deployed in an environment.
- Change the Essbase version in use in Oracle Enterprise Performance Management Cloud environments other than Narrative Reporting, Oracle Enterprise Data Management Cloud, and Account Reconciliation, which do not use Essbase.
  By default, EPM Standard Cloud Service and EPM Enterprise Cloud Service environments are deployed with Hybrid-enabled Essbase, while legacy environments are deployed with Non-Hybrid Essbase. Downgrading the deployment of Hybrid-enabled Essbase in EPM Standard Cloud Service and EPM Enterprise Cloud Service environments is required, if you are importing a snapshot from an environment that has a Non-Hybrid Essbase version. Upgrading the deployment of Non-Hybrid Essbase in legacy environments is required to:
  - Support the extended dimensionality in existing legacy Financial Consolidation and Close environments
  - Enable hybrid block storage (BSO) applications in legacy Enterprise Planning and Planning Modules environments

  For detailed information about Hybrid Essbase and the considerations for upgrading to Hybrid Essbase, see About Essbase in EPM Cloud in *Getting Started with Oracle Enterprise Performance Management Cloud for Administrators*.

Caution:

- **This API deletes the existing application and, optionally, all user defined artifacts from the environment. Additionally, it re-creates the database and removes all existing data. After recreating the service, you can create a new business process or import one using REST APIs, Migration, or EPM Automate**.
- **This API deletes migration history. As a result, the Migration Status Report available in Migration will not contain historic information**.

- **Before using this API, perform a complete backup of the environment. You can create a backup snapshot by executing runDailyMaintenance**.

This API is version v2.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v2/config/services/recreate`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Payload: `JSON`

Table 9-45 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None

Table 9-45 (Cont.) Parameters

Name	Description	Type	Required	Default
`tempServiceType`	Optionally, convert an environment to a different service environment. The business processes that you can deploy in an environment is governed by the type of subscription that you have. For example, if you have an EPM Standard Cloud Service subscription, you cannot create a FreeForm application after converting the environment from Account Reconciliation to Planning. If you have an EPM Enterprise Cloud Service subscription, you can create any business process in your environment after changing the service type appropriately. See "About the New EPM Cloud Services" in Getting Started with Oracle Enterprise Performance Management Cloud for Administrators. The behavior of this parameter is dependent on your subscription. For details and examples, see Recreate in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*. Acceptable `tempServiceType` values: • `ARCS` to convert an environment to an Account Reconciliation environment • `EDMCS` to convert an environment to an Oracle Enterprise Data Management Cloud environment • `EPRCS` to convert an environment to a Narrative Reporting environment • `PCMCS` to convert an environment to a Profitability and Cost Management Cloud environment • `PBCS` to convert a Profitability and Cost Management environment to a Planning, Enterprise Planning, or Enterprise Profitability and Cost Management environment **Note**: You can create a Tax Reporting or Financial Consolidation and Close application in a new Planning environment. You do not need to change the service type of the environment. When you run this REST API with `tempserviceType`, the `serviceType` change can be verified by making a REST call to `/interop/rest`.	Payload	No	None
`removeAll`	If set to `true`, deletes all the snapshots and the content of the Inbox and Outbox folders	Payload	No	None

Table 9-45 (Cont.) Parameters

Name	Description	Type	Required	Default
essbaseChange	Optionally, upgrade or downgrade the current Essbase version. The REST API retains the current Essbase version if you do not specify this option. Permissible values are: • upgrade to change from Non-Hybrid Essbase to Hybrid Essbase • downgrade to change from Hybrid Essbase to Non-Hybrid Essbase **Caution**: Before using this option, read and understand the information available in About Essbase in EPM Cloud in *Getting Started with Oracle Enterprise Performance Management Cloud for Administrators*.	Payload	No	None

Example of Request Payload

```
{
  "parameters": {
     "removeAll": "true",
     "tempServiceType": "ARCS",
     "essbaseChange": "default"
  }
}
```

Response

Table 9-46 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: self and/or Job Status. If the value is set to Job Status, you can use the href to get the status of the recreate service
data	Parameters as key value pairs passed in the request

Example of Response Body in JSON Format

```
{
    "details": null,
    "status": 0,
    "links": [{
        "href": "https://<URL>/interop/rest/v2/config/services/
```

```
recreate",
        "rel": "self",
        "data": null,
        "action": "POST"
    },
    {
        "href": "https://<URL>/interop/rest/v2/config/status/service/
recreate/1",
        "rel": "Job Status",
        "data": null,
        "action": "GET"
    }]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H 'Content-Type: application/json' -d '"{"parameters":
{"removeAll":"false","essbaseChange":"upgrade",
"tempServiceType":"PCMCS"}}"' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/config/
services/recreate
```

Sample cURL code

```
#!/bin/sh

USERNAME="<USERNAME>"
PASSWORD="<PASSWORD>"
SERVER_URL="<SERVICE_URL>"

APP_NAME="Vision"
API_VERSION="v2"

funcRemoveTempFiles() {
    for var in "$@"
    do
        if [ -f $var ]; then
            rm $var
        fi
    done
}

funcPrintErrorDetails() {
    contentType=`echo $(grep 'Content-Type:' respHeader.txt) | tr -d
[:space:]`
    if [ ! -z $contentType ] && [[ $contentType = *"application/json"* ]];
then
        output=`cat $1`
        error=`echo $output | jq '.details'`
        echo "Error details: " $error
    fi
}
```

```
funcExecuteRequest() {
    if [ ! -z "$4" ]; then
        statusCode=`curl -X $1 -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o "response.txt" -D "respHeader.txt" -H
"Content-Type: $4" -d "$3" $2`
    else
        statusCode=`curl -X $1 -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o "response.txt" -D "respHeader.txt" -H
"Content-Type: $3" $2`
    fi

    if [ $statusCode != 200 ]; then
        echo "Error executing request"
        if [ $statusCode != 000 ]; then
            echo "Response error code : " $statusCode
            funcPrintErrorDetails "response.txt"
            funcRemoveTempFiles "respHeader.txt" "response.txt"
        fi
        exit 0
    fi
}

funcGetStatus() {
    output=`cat response.txt`
    count=`echo $output | jq '.links | length'`
    i=0
    pingUrl=""

    while [ $i -lt $count ]; do
        rel=`echo $output | jq '.links['$i'].rel'`
        rel=`echo "$rel" | tr -d "\""`
        if [ "$rel" == "Job Status" ]; then
                pingUrl=`echo $output | jq '.links['$i'].href'`
                pingUrl=`echo "$pingUrl" | tr -d "\""`
        fi
        i=`expr $i + 1`
    done

    echo $pingUrl
    completed="false"

    while [ $completed != "true" ]; do
        statusCode2=`curl -X $1 -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o "pingResponse.txt"  -H "Content-Type:
application/json" "$pingUrl"`
        if [ $statusCode2 == 200 ]; then
            status2=`jq '.status' pingResponse.txt`
            if [ $status2 != -1 ]; then
                completed="true"
                echo "Job completed"
            else
                echo "Please wait..."
                sleep 20
            fi
        else
```

```
            echo "Please wait..."
            sleep 20
        fi
        funcRemoveTempFiles "pingResponse.txt"
    done
}

funcHardReset() {
    echo "Are you sure you want to restart the service instance (yes/no):
no? [Press Enter] "
    read toReset
    if [ $toReset != "yes" ]; then
        echo "User cancelled the reset command"
        exit 0
    fi

    url=$SERVER_URL/interop/rest/$API_VERSION/config/services/reset
    comment=$(echo $1)
    param="{\"comment\":\"${comment}\",\"parameters\":
{\"autotune\":\"false\"}}"
    funcExecuteRequest "POST" "$url" "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`

    if [ "${status}" == -1 ]; then
        echo "Started hard reset succesfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi

    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcRecreateService() {

    removeAll=$1
    essbaseChange=$2
    tempServiceType=$3

    echo "Are you sure you want to recreate the EPM environment (yes/no):
no? [Press Enter] "
    read toCreate

    if [ $toCreate != "yes" ]; then
        echo "User cancelled the recreate command"
        exit 0
    fi

    url=$SERVER_URL/interop/rest/$API_VERSION/config/services/recreate
    param="{\"parameters\":{\"removeAll\":\"${removeAll}
\",\"essbaseChange\":\"${essbaseChange}\", \"tempServiceType\":\"$
{tempServiceType}\"}}"
```

```
    funcExecuteRequest "POST" "$url" "$param" "application/json"
    output=`cat response.txt`
    status=`echo $output | jq '.status'`

    if [ $status == -1 ]; then
        echo "Started recreating the environment successfully"
                funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi

    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

if [[ "$#" != "1" ]]; then
    echo "Mandatory argument missing"
    echo "Usage: EPMRestSamples <option>"
    echo "  where <option> is -recreate or -reset"
    exit 1
fi

if [ "${1}" == "-reset" ]; then
    funcHardReset "POC Exit Criteria Check - cURL"
elif [ "${1}" == "-recreate" ]; then
    funcRecreateService "false" "default" ""
else
    echo "Incorrect usage"
    echo "Usage: EPMRestSamples <option>"
    echo "  where <option> is -recreate or -reset"
    exit 1
fi
```

Sample Java Code

```
package com.oracle.test;

import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.io.OutputStreamWriter;
import java.net.HttpURLConnection;
import java.net.URL;
import java.util.Scanner;
import java.util.Base64;

import org.json.JSONArray;
import org.json.JSONObject;


/*
 * EPM Rest Samples.
```

```
 * The userName variable uses the format <domain>.<username>.
 */
public class EPMRestSamples {

    private String userName;            // EPMCloud user name
    private String password;            // EPMCloud user password
    private String serverUrl;           // EPMCloud server URL
    private String apiVersion="v2";     // Version of the EPMCloud Rest API

    private long startTime;
    private long endTime;
    private long maxLoopTime=(60 * 60 * 1000);

    public static void main(String[] args) {
        try {

            if(null == args || args.length != 1) {
                System.err.println("Mandatory argument missing");
                System.err.println("Usage: EPMRestSamples <option>");
                System.err.println("  where <option> is -recreate or -
reset");
                System.exit(1);
            }

            // TODO: Use appropriate username, password, and URL
            EPMRestSamples samples = new EPMRestSamples(
                "<USERNAME>", "<PASSWORD>","<SERVICE_URL>");

            String option = args[0];
            if("-reset".equalsIgnoreCase(option)) {
                samples.hardReset("POC Exit Criteria Check - Java");
            }
            else if("-recreate".equalsIgnoreCase(option)) {
                samples.recreateService("false", "default", "");
            }
            else {
                System.err.println("Incorrect usage");
                System.err.println("Usage: EPMRestSamples <option>");
                System.err.println("  where <option> is -recreate or -
reset");
                System.exit(1);
            }
        }
        catch (Throwable x) {
            System.err.println("Error: " + x.getMessage());
        }
    }

    public EPMRestSamples(String userName, String password, String
serverUrl) throws Exception {
        this.userName = userName;
        this.password = password;
        this.serverUrl = serverUrl;
    }
```

```
    private String getStringFromInputStream(InputStream is) {
        BufferedReader br = null;
        StringBuilder sb = new StringBuilder();
        String line;

        try {
            br = new BufferedReader(new InputStreamReader(is));
            while ((line = br.readLine()) != null) {
                sb.append(line);
            }
        }
        catch (IOException e) {
            e.printStackTrace();
        }
        finally {
            if (br != null) {
                try { br.close(); }
                catch (IOException e) { e.printStackTrace(); }
            }
        }
        return sb.toString();
    }

    private String executeRequest(String urlString, String
requestMethod, String payload, String contentType) throws Exception {
        HttpURLConnection connection = null;
        try {
            URL url = new URL(urlString);
            Base64.Encoder encoder = Base64.getEncoder();
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod(requestMethod);
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty("Authorization", "Basic " +
encoder.encodeToString((userName + ":" + password).getBytes()));
            connection.setRequestProperty("Content-Type", contentType);

            if (payload != null) {
                OutputStreamWriter writer = new
OutputStreamWriter(connection.getOutputStream());
                writer.write(payload);
                writer.flush();
            }

            int status = connection.getResponseCode();
            if (status == 200 || status == 201) {
                return
getStringFromInputStream(connection.getInputStream());
            }

            throw new Exception("Http status code: " + status);
        }
        finally {
```

```
            if (connection != null) { connection.disconnect(); }
        }
    }

    private void getJobStatus(String pingUrlString, String methodType)
throws Exception {
        boolean completed = false;

        while (!completed) {

            String pingResponse = null;
            try {
                pingResponse = executeRequest(pingUrlString, methodType,
null, "application/json");
            }
            catch (Exception e) {
                if(e instanceof java.net.ConnectException || e instanceof
java.net.SocketException) {
                    if(System.currentTimeMillis()<endTime) {
                        System.out.println("Processing. Please wait...");
                        Thread.sleep(60000);
                        continue;
                    }
                    throw new Exception("Command timeout..");
                }
                throw e;
            }

            JSONObject json = new JSONObject(pingResponse);
            int status = json.getInt("status");

            if (status == -1) {
                try {
                    System.out.println("Processing. Please wait...");
                    Thread.sleep(20000);
                }
                catch (InterruptedException ie) {
                    completed = true;
                    throw ie;
                }
            }
            else {
                if (status > 0) {
                    System.out.println("Error occurred: " +
json.getString("details"));
                }
                else {
                    System.out.println("Execution completed successfully");
                }
                completed = true;
            }
        }
    }

    public String fetchPingUrlFromResponse(String response, String retValue)
```

```
throws Exception {
        String pingUrlString = null;
        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");

        if (resStatus == -1) {
            JSONArray lArray = jsonObj.getJSONArray("links");
            for (int i = 0; i < lArray.length(); i++) {
                JSONObject arr = lArray.getJSONObject(i);
                if (arr.get("rel").equals(retValue))
                    pingUrlString = (String) arr.get("href");
            }
        }

        return pingUrlString;
    }

    public void hardReset(String comment) throws Exception {
        Scanner in = new Scanner(System.in);
        System.out.print("Are you sure you want to restart the service
instance (yes/no): no? [Press Enter] ");
        String s = in.nextLine();

        if (!s.equals("yes")) {
            System.out.println("User cancelled the recreate command");
            System.exit(0);
        }

        JSONObject params = new JSONObject();
        params.put("comment",comment);
        JSONObject innerParams = new JSONObject();
        innerParams.put("autotune","true");
        params.put("parameters",innerParams);

        String urlString = String.format("%s/interop/rest/%s/config/
services/reset", serverUrl, apiVersion);
        startTime=System.currentTimeMillis();
        endTime = startTime+maxLoopTime;
        String response = executeRequest(urlString, "POST",
params.toString(), "application/json");
        getJobStatus(fetchPingUrlFromResponse(response, "Job
Status"),"GET");
    }

    public void recreateService(String removeAll, String
essbaseChange, String tempServiceType) throws Exception {
        Scanner in = new Scanner(System.in);
        System.out.print("Are you sure you want to recreate the EPM
environment (yes/no): no ?[Press Enter] " );
        String s = in.nextLine();

        if (!s.equals("yes")) {
            System.out.println("User cancelled the recreate command");
            System.exit(0);
        }
```

```
        JSONObject params = new JSONObject();
        JSONObject innerParams = new JSONObject();

        innerParams.put("tempServiceType", tempServiceType);
        innerParams.put("essbaseChange", essbaseChange);
        innerParams.put("removeAll", removeAll);
        params.put("parameters", innerParams);

        String urlString = String.format("%s/interop/rest/%s/config/services/
recreate", serverUrl, apiVersion);
        startTime=System.currentTimeMillis();
        endTime = startTime+maxLoopTime;
        String response = executeRequest(urlString, "POST",
params.toString(), "application/json");
        getJobStatus(fetchPingUrlFromResponse(response, "Job Status"),
"GET");
    }
}
```

Sample Groovy Code

```
package com.groovy

import org.json.JSONObject
import groovy.json.JsonSlurper

// TODO: Use appropriate username, password, and url
username="<USERNAME>"
password="<PASSWORD>"
serverUrl="<SERVICE_URL>"

endTime=0
maxLoopTime=(60 * 60 * 1000)

apiVersion = "v2"
userCredentials = username + ":" + password
basicAuth = "Basic " + userCredentials.bytes.encodeBase64().toString()

def getResponse(is) {
    BufferedReader br = new BufferedReader(new InputStreamReader(is))
    StringBuilder sb = new StringBuilder()
    String line

    while ((line = br.readLine()) != null) {
        sb.append(line+"\n")
    }

    br.close()
    return sb.toString()
}

def getJobStatus(pingUrlString, methodType) {
    def pingUrl = new URL(pingUrlString)
```

```
    def completed = false

    while (!completed) {
        try {
            pingResponse = executeRequest(pingUrl, methodType, null,
"application/json")
        }
        catch(exp) {
            if(exp instanceof java.net.ConnectException || exp
instanceof java.net.SocketException) {
                if(System.currentTimeMillis()<endTime) {
                    println("Processing. Please wait...")
                    Thread.sleep(60000)
                    continue
                }
                throw new Exception("Command timeout..")
            }
        }

        status = getJobStatusFromResponse(pingResponse)
        if (status == "Processing") {
            try {
                println "Processing. Please wait..."
                Thread.sleep(5000)
            }
            catch (InterruptedException e) {
                completed = true
            }
        }
        else {
            println "Execution completed successfully"
            completed = true
        }
    }
}

def getJobStatusFromResponse(response) {
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == -1) { return "Processing" }
    else if (status == 0) { return "Completed" }
    else { return object.details }
}

def executeRequest(url, requestType, payload, contentType) throws
Exception {
    HttpURLConnection connection = (HttpURLConnection)
url.openConnection()
    connection.setDoOutput(true)
    connection.setInstanceFollowRedirects(false)
    connection.setRequestMethod(requestType)
    connection.setRequestProperty("Content-Type", contentType)
    connection.setRequestProperty("Authorization", basicAuth)
    connection.setUseCaches(false)
```

```
    if (payload != null) {
        OutputStreamWriter writer = new
OutputStreamWriter(connection.getOutputStream())
        writer.write(payload)
        writer.flush()
    }

    int statusCode
    try { statusCode = connection.responseCode }
    catch (all) { throw all }

    def response
    if (statusCode == 200 || statusCode == 201) {
        if (connection.getContentType() != null && !
connection.getContentType().startsWith("application/json")) {
            println "Error occurred in server"
            System.exit(0)
        }
        InputStream is = connection.getInputStream()
        if (is != null) { response = getResponse(is) }
    }
    else {

        if (statusCode == 503) {
            throw new Exception("Service Unavailable")
        }

        InputStream is = connection.getErrorStream()
        if (is != null && connection.getContentType() != null &&
            connection.getContentType().startsWith("application/json")) {
            println getJobStatusFromResponse(getResponse(is))
        }
    }

    connection.disconnect()
    return response
}

def getUrlFromResponse(scenario, response, relValue) {
    def object = new JsonSlurper().parseText(response)
    def pingUrlStr
    if (object.status == -1) {
        println "Started - " + scenario
        def links = object.links
        links.each{
            if (it.rel.equals(relValue)) {
                pingUrlStr=it.href
            }
        }
    }
    else {
        println "Error details: " + object.details
        System.exit(0)
    }
    return pingUrlStr
```

```
}

def hardReset(comment) {

    def scenario = "Hard reset"
    def toReset = System.console().readLine 'Are you sure you want to
restart the service instance (yes/no): no? [Press Enter] '

    if (!toReset.equals("yes")) {
        println "User cancelled the resetService command"
        System.exit(0)
    }

    def url
    JSONObject params = new JSONObject()
    JSONObject innerParams = new JSONObject()

    try {
        params.put("comment", comment)
        innerParams.put("autotune","true")
        params.put("parameters",innerParams)
        url = new URL(serverUrl+"/interop/rest/" + apiVersion + "/
config/services/reset")
    }
    catch (MalformedURLException e) {
        println "Malformed URL. Please pass valid URL"
        System.exit(0)
    }

    endTime=System.currentTimeMillis() +maxLoopTime
    response = executeRequest(url, "POST", params.toString(),
"application/json")

    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"),"GET")
    }
}

def recreateService(removeall,essabaseoption,tempServiceType) {

    def scenario="Recreate"
    def toCreate = System.console().readLine 'Are you sure you want to
recreate the EPM environment (yes/no): no? [Press Enter] '
    if (!toCreate.equals("yes")) {
        println "User cancelled the recreate command"
        System.exit(0)
    }

    def url
    JSONObject params = new JSONObject()
    JSONObject innerParams = new JSONObject()

    try {
        innerParams.put("tempServiceType", tempServiceType)
```

```
        innerParams.put("essbaseChange", essabaseoption)
        innerParams.put("removeAll", removeall)
        params.put("parameters", innerParams)
        url = new URL(serverUrl + "/interop/rest/" + apiVersion + "/config/
services/recreate")
    }
    catch (MalformedURLException e) {
        println "Malformed URL. Please pass valid URL"
        System.exit(0)
    }

    endTime=System.currentTimeMillis() +maxLoopTime
    response = executeRequest(url, "POST", params.toString(), "application/
json")

    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"),"GET")
    }
}

if(this.args == null || this.args.length != 1) {
    println "Mandatory argument missing"
    println "Usage: EPMRestSamples <option>"
    println "  where <option> is -recreate or -reset"
    System.exit(1)
}

def option = this.args[0]

if("-reset".equalsIgnoreCase(option)) {
    hardReset("POC Exit Criteria Check - Groovy");
}
else if("-recreate".equalsIgnoreCase(option)) {
    recreateService("false", "default", "");
}
else {
    println "Incorrect usage"
    println "Usage: EPMRestSamples <option>"
    println "  where <option> is -recreate or -reset"
    System.exit(1)
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Manage Application Snapshots

You can manage the file system artifacts or application snapshots using the following REST resources.

Note: The password of the source EPM Cloud environment must have already been encrypted using EPM Automate. The encrypted password must then be passed as one of the parameters for the `copysnapshot` REST API. See the *encrypt* command in Command Reference in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-47 Manage Application Snapshots

Task	Request	REST Resource
Get Information About All Application Snapshots	GET	`/interop/rest/{api_version}/applicationsnapshots`
Get Information About a Specific Application Snapshot	GET	`/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}`
Copy Application Snapshot (v1)	POST	`/interop/rest/v1/services/{servicename}/copysnapshot`
Copy Application Snapshot (v1)	POST	`/interop/rest/v1/services/{servicename}/copysnapshot`
Copy Application Snapshot (v2)	POST	`/interop/rest/v2/snapshots/copyfrominstance`

Get Information About All Application Snapshots

This API returns information about all application snapshots that are available in an Planning instance. It provides details such as name, type, size, and last modified time. Type signifies whether it is a Migration snapshot or an external snapshot. Size and last modified time are not available for Migration type snapshots.

This API is version 11.1.2.3.600.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/{api_version}/applicationsnapshots`

Response

Supported Media Types: `application/json`

Parameters:

Table 9-48 Parameters

Name	Description
api_version	Specific API version
details	In case of errors, details are published with the error string
status	See Migration Status Codes
items	Detailed information about the API
name	Name of the application snapshot
type	Possible values: LCM, EXTERNAL
size	Size of the application snapshot in bytes. Available only for type EXTERNAL
lastmodifiedtime	Time in Long value as per the last modified time of the file. Will be available only for type EXTERNAL
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Possible value: self
data	Parameters as key value pairs passed in the request

The following shows an example of the response body in JSON format.

```
{
    "status":0,
    "items":[{
        "name":"sample.csv",
        "type":"EXTERNAL",
        "size":"18",
        "lastmodififedtime":"1422534438000"
        },{
        "name":"snapshot1",
        "type":"LCM",
        "size":null,
        "lastmodififedtime":null
    }],
    "details":null,
    "links":[{
        "data":null,
        "action":"GET",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots",
        "rel":"self"
    }]
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL

- See CSS Common Helper Functions for Groovy

Get Information About a Specific Application Snapshot

Returns information about all the operations that can be performed on a particular application snapshot. It provides details on operations such as Migration import and export, upload, download, and delete.

This API is version 11.1.2.3.600.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}`

Request

The following table summarizes the GET request parameters.

Table 9-49 Parameters

Name	Description	Type	Required	Default
`applicationSnapshotName`	Application snapshot name to retrieve the details	Path	Yes	N/A

Response

Supported Media Types: `application/json`

Parameters:

Table 9-50 Parameters

Name	Description
`details`	In the case of an error, details are published with the error string
`status`	See Migration Status Codes
`items`	Detailed information about the API
`name`	Name of the application snapshot
`type`	Possible values: `LCM`, `EXTERNAL`
`canexport`	Identifies whether this application snapshot can be exported using Migration. Applicable only to Migration application artifacts
`canimport`	Identifies whether this application snapshot can be imported using Migration. Applicable only to Migration application artifacts
`canupload`	Identifies whether the application snapshot can be uploaded
`candownload`	Identifies whether the application snapshot can be downloaded
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type

Table 9-50 (Cont.) Parameters

Name	Description
rel	Possible values: self, import, export, upload, download, or delete depending on the operation permitted on an application snapshot
data	Parameters as key value pairs passed in the request

The following is an example of the response body in JSON format.

```
{
    "status":0,
    "items":[{
        "name":"snapshot1",
        "type":"LCM",
        "canexport":true,
        "canimport":true,
        "canupload":true,
        "candownload":true
    }],
    "details":null,
    "links":[{
        "data":null,
        "action":"GET",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/snapshot1",
        "rel":"self"
        },{
        "data":null,
        "action":"GET",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/snapshot1/contents",
        "rel":"download"
        },{
        "data":null,
        "action":"POST",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/snapshot1/contents?
isLast=true&chunkSize=52428800&isFirst=true",
        "rel":"upload"
        },{
        "data":null,
        "action":"POST",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/snapshot1/migrationq={type:"export}"
        "rel":"export"
        },{
        "data":null,
        "action":"POST",
```

```
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/snapshot1/migrationq={type:"import}",
        "rel":"import"
        },{
        "data":null,
        "action":"DELETE",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/ss1",
        "rel":"delete"
    }]
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Get Information about a Specific Application Snapshot Sample Code

Example 9-27 Java Sample – getInfoAboutSpecificSnapshots.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN - Get application snapshot details
//
public void getApplicationSnapshotDetails(String snapshotName) throws
Exception {
    String urlString = String.format("%s/interop/rest/%s/
applicationsnapshots/%s", serverUrl, apiVersion, snapshotName);
    String response = executeRequest(urlString, "GET", null);
    JSONObject json = new JSONObject(response);

    int resStatus = json.getInt("status");
    if (resStatus == 0) {
        System.out.println("Application details :");
        JSONArray itemsArray = json.getJSONArray("items");
        JSONObject item = (JSONObject) itemsArray.get(0);
        System.out.println("Application snapshot name : " +
item.getString("name"));
        System.out.println("Application snapshot type : " +
item.getString("type"));
        System.out.println("Can be exported flag : " +
item.getString("canExport"));
        System.out.println("Can be imported flag : " +
item.getString("canImport"));
        System.out.println("Can be uploaded flag : " +
item.getString("canUpload"));
        System.out.println("Can be downloaded flag : " +
```

```
item.getString("canDownload"));

        JSONArray linksArray = json.getJSONArray("links");
        JSONObject jObj = null;
        System.out.println("Services details :");
        for(int i=0; i < linksArray.length(); i++){
            jObj = (JSONObject)linksArray.get(i);
            System.out.println("Service :" + jObj.getString("rel"));
            System.out.println("URL :" + jObj.getString("href"));
            System.out.println("Action :" + jObj.getString("action") + "\n");
        }
    }
}
//
// END - Get application snapshot details
//
```

Example 9-28 cURL Sample – GetInfoAboutSpecificSnapshots.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcGetApplicationSnapshotDetails() {
    url=$SERVER_URL/interop/rest/$API_VERSION/applicationsnapshots/$1
    funcExecuteRequest "GET" $url

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Application details :"
        echo "Application snapshot name : " `echo $output | jq
'.items[0].name'`
        echo "Application snapshot type : " `echo $output | jq
'.items[0].type'`
        echo "Can be exported flag : " `echo $output | jq
'.items[0].canExport'`
        echo "Can be imported flag : " `echo $output | jq
'.items[0].canImport'`
        echo "Can be uploaded flag : " `echo $output | jq
'.items[0].canUpload'`
        echo "Can be downloaded flag : " `echo $output | jq
'.items[0].canDownload'`
        count=`echo $output | jq '.links | length'`
        i=0
        echo "Services details :"
        while [ $i -lt $count ]; do
            echo "Service : " `echo $output | jq '.links['$i'].rel'`
            echo "URL :" `echo $output | jq '.links['$i'].href'`
            echo "Action :" `echo $output | jq '.links['$i'].action'`
            echo ""
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
```

```
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 9-29 Groovy Sample – GetInfoAboutSpecificSnapshots.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def getApplicationSnapshotDetails(applicationSnapshotName) {
    def url;
    try {
        String snapshotName =
URLEncoder.encode(applicationSnapshotName, "UTF-8");
        url = new URL(serverUrl + "/interop/rest/" + apiVersion + "/
applicationsnapshots/" + snapshotName)
    } catch (MalformedURLException e) {
        println "Malformed URL. Please pass valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "GET", null);
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == 0 ) {
        println "Application details :"
        println "Application snapshot name : " + object.items[0].name
        println "Application snapshot type : " + object.items[0].type
        println "Can be exported flag : " + object.items[0].canExport
        println "Can be imported flag : " + object.items[0].canImport
        println "Can be uploaded flag : " + object.items[0].canUpload
        println "Can be downloaded flag : " +
object.items[0].canDownload
        def links = object.links
        println "Services details :"
        links.each{
            println "Service : " + it.rel
            println "URL : " + it.href
            println "Action : " + it.action + "\n"
        }
    } else {
        println "Error occurred while fetching application snapshot
details"
        if (object.details != null)
                println "Error details: " + object.details
    }
```

Upload Application Snapshot (v1)

This API uploads an application snapshot to the Planning repository. The client needs to call upload API multiple times based on the size of file to upload. The client needs to break the existing stream into a number of chunks depending on the logic that each chunk size is not greater than 50 * 1024 * 1024 bytes.

This API is version v1.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/contents?q={"isLast":false,"isFirst":true,"chunkSize":14,"fileSize":"55445"}`

Supported Media Types: `application/octet-stream`

The following table summarizes the client request.

Table 9-51 Parameters

Name	Description	Type	Default
`api_version`	Specific API version	Path	N/A
`applicationSnapshotName`	Name of the application snapshot to be uploaded. A file with this name is created in the Planning repository. If a file or folder with this name exists in the repository, an error is thrown indicating that a file or folder exists.	Path	N/A
`isLast`	If the chunk being passed is the last one then set to true	Query	N/A
`chunkSize`	Size of the chunk being passed in bytes	Query	N/A
`isFirst`	If the chunk being passed is the first one and there will be subsequent requests for upload then set as true	Query	N/A
`fileSize`	The size of the file being uploaded	Query	N/A

Response

Supported Media Types: `application/json`

Table 9-52 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Is `self`, which denotes the URL of this REST API.
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "status":0,
    "details":null,
    "links":[{
        "data":null,
        "action":"POST",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
applicationsnapshots/ss2.zip/contents,
        "rel":"self"
    }]
}
```

Example of uploading with Postman

To upload a file named `snapshot.zip` of size 12606 bytes:

Select request method as POST and Basic Authorization header for all the requests

Example Request 1 (To create the file)

URL `https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com//interop/rest/v1/applicationsnapshots/snapshot.zip/contents?q=PARAMETERS -> {"isFirst":true,"chunkSize":14,"fileSize":"12606","isLast":false} // utf-8 encoded value of it`

Parameters

```
{"isFirst":true,"chunkSize":14,"fileSize":"12606","isLast":false} // utf-8
encoded value of it
```

Example:

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
applicationsnapshots/snapshot.zip/contents?
q=%7B%22isFirst%22%3Atrue%2C%22chunkSize%22%3A14%2C%22fileSize%22%3A%22
3318004%22%2C%22isLast%22%3Afalse%7D
```

Example Response 1

```
{
    "links": [
        {
            "rel": "self",{
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
applicationsnapshots/snapshot.zip/contents?
q=%7B%22isFirst%22:true,%22chunkSize%22:14,%22fileSize%22:%223318004%22
,%22isLast%22:false%7D",
            "data": null,
            "action": "POST"
        }
```

```
    ],
    "details": null,
    "status": 0
}
```

Example Request 2 (To upload the content)

URL `https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/applicationsnapshots/snapshot.zip/contents?q=`

Parameters

```
{"startRange":"0","isFirst":false,"chunkSize":12606,"isLast":false,"fileSize":"12606","endRange":"12605","chunkNo":1} // encoded value of it (Ensure the value of the parameters chunkSize and fileSize is equivalent to the total size of the file and endRange is set to fileSize - 1.)
```

Example:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/applicationsnapshots/snapshot.zip/contents?q=%7B%22startRange%22%3A%220%22%2C%22isFirst%22%3Afalse%2C%22chunkSize%22%3A12606%2C%22isLast%3A%22false%22%7D
```

To select the file: Select tab `Body`, radio button `Binary`, Choose`File`, `Send`

Example Response 2

```
{
    "links": [
        {
            "rel": "self",{
            "href": "https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/applicationsnapshots/snapshot.zip/contents?q=%7B%22startRange%22:%220%22,%22isFirst%22:false,%22chunkSize%22:12606,%22isLast%22:false,%22fileSize%22:%2212606%22,%22endRange%22:%2212605%22,%22chunkNo%22:1%7D",
            "data": null,
            "action": "POST"
        }
    ],
    "details": null,
    "status": 0
}
```

Example Request 3 (To extract the content out of the zip file)

URL `https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/applicationsnapshots/snapshot.zip/contents?q=`

Parameters `{"isFirst":false,"chunkSize":14,"fileSize":"12606","isLast":true} // utf-8 encoded value of it`

Example:

```
https://<https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
applicationsnapshots/snapshot.zip/contents?
q=%7B%22isFirst%22%3Afalse%2C%22chunkSize%22%3A14%2C%22fileSize%22%3A%2
212606%22%2C%22isLast%22%3Atrue%7D
```

To select the file: Select tab `Body`, radio button `Binary`, Choose`File`, `Send`

Example Response 3

```
{
    "links": [
        {
            "rel": "self",{
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
applicationsnapshots/snapshot.zip/contents?
q=%7B%22isFirst%22:false,%22chunkSize%22:14,%22fileSize%22:%223318004%2
2,%22isLast%22:true%7D",
            "data": null,
            "action": "POST"
        }
    ],
    "details": null,
    "status": 0
}
```

Upload Application Snapshot (v2)

The Upload Application Snapshot (v2) REST API uploads an application snapshot to Oracle Enterprise Performance Management Cloud. The client needs to call upload API multiple times based on the size of the file to upload. The client needs to break the existing stream into a number of chunks depending on the logic that each chunk size is not greater than 50 * 1024 * 1024 bytes.

This API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/v2/files/upload`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-53 Tasks for Upload Application Snapshot

Task	Request	REST Resource
Create file	POST	`/interop/rest/v2/files/upload`
Upload content	PATCH	`/interop/rest/v2/files/upload/7224986735511603`
Extract the content out of zip file	POST	`/interop/rest/v2/files/upload/7224986735511603/complete`
Extraction status	GET	`/interop/rest/v2/status/jobs/7224986735511603`

The following table summarizes the client request.

Table 9-54 Parameters

Name	Description	Type	Required	Default
`fileName`	Name of the application snapshot to upload. A file with this name is created in EPM Cloud. If a file or folder with this name already exists, an error is thrown indicating that a file or folder exists.	Payload	Yes	None
`fileSize`	The size of the file to upload	Payload	Yes	None

Response

Supported Media Types: `application/json`

Table 9-55 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Is `self`, which denotes the URL of this REST API.
`data`	Parameters as key value pairs passed in the request

Example of Uploading with Postman

To upload a file named `snapshot.zip` of size 12606 bytes, select Basic Authorization header for all the requests.

Example URL and Payload to Create the File

Request Method: POST

Supported Media Types: `application/json`

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
files/upload
```

```
{
    "fileName": "snapshot.zip",
    "fileSize": "2468889"
}
```

Example Response 1

```
{
    "status":0,
    "details":null,
    "links":[{
        "data":null,
        "action":"POST",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
interop/rest/v2/files/upload,
        "rel":"self"
    }]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"fileName": "snapshot.zip", "fileSize":"2468889"}'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
v2/files/upload'
```

Example URL and Payload to Upload the Content

Request Method: PATCH

Supported Media Types: `application/octet-stream`

Chunk-Range has to be passed as a Header parameter `(0-2468889)`

> **Note:**
>
> Ensure the value of the fileSize is equivalent to the total size of the file and end Range is set to fileSize -1.

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/files/upload/7224986735511603
```

To select the file: Select tab `Body`, radio button `Binary`, Choose `File` to upload.

Example Response 2

```
{
    "details": null,
    "status": 0,
    "links": [
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/files/
upload/7224986735511603",
            "action": "PATCH",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X PATCH -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/octet-stream' -H
'Chunk-Range: 0-2468888' --data-binary '@snapshot.zip'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
v2/files/upload/7232824317092320'
```

Example URL and Payload to Extract the Content Out of the Zip File

Request method: POST

Supported Media Types: `application/json`

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/files/upload/7224986735511603/complete
```

Example Response 3

```
{
    "details": null,
    "status": -1,
```

```
    "links": [
        {
            "href": "http://slcar282.usdv1.oraclecloud.com:13017/
interop/rest/v2/files/upload/7224986735511603/complete",
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": "http://slcar282.usdv1.oraclecloud.com:13017/
interop/rest/v2/status/jobs/7293659723083015",
            "action": "GET",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```


Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
v2/files/upload/7232824317092320/complete'
```

Example URL and Payload Extraction Status

Request method: POST

Supported Media Types: `application/json`

This API request needs to be requested when the status code received in the example 3 response is -1.

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/jobs/7293659723083015
```

Example Response 4


```
{
    "details": null,
    "status": 0,
    "links": [
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/jobs/7293659723083015",
            "action": "GET",
            "rel": "self",
            "data": null
        }
```

```
    ]
}
```

Sample cURL command

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
v2/status/jobs/7293659723083015'
```

Download Application Snapshot (v1)

Downloads the application snapshot from EPM repository to the local location from where client is being run. After receiving the response, if the content type is `application/json` then there would be an error on server and refer to details. Else, if it's `application/octet-stream`, then the content to be downloaded is part of the response and can read from the response body.

> **Note:**
>
> The entire path to the file must be encoded; for example, changing `/` to `%2F` and spaces to .

For example, change this path to an .HTML file in the `apr` directory:

```
apr/2020-03-04 23_07_20/2020-03-04 23_07_20.html
```

to this:

```
apr%2F2020-03-04%2023_07_20%2F2020-03-04%2023_07_20.html
```

This API is version v1.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

GET `/interop/rest/{api_version}/applicationsnapshots/{applicationSnapshotName}/contents`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

The following table summarizes the GET request parameters.

Table 9-56 Parameters

Name	Description	Type	Required	Default

`applicationSnapshotName`	Application snapshot name or file name to download (for example, `"Artifact Snapshot"` or `s112.csv`).
	The entire `applicationSnapshotName` must be encoded before sending the request.
	To download a particular file, provide the path to that file as the value of `applicationSnapshotName`. For example, to download a Data Management file called `s112.csv` in the inbox, refer to the file as `"inbox\s112.csv"` in the path parameter.
	To download the Activity Reports or access log, use the fully qualified file name as shown in the output of List Files.
	For example, to download a specific file from the `apr` directory, use the following format:
	`pr%2F2020-03-04%0A23_07_20%2F2020-03-04%0A23_07_20.html`
	`apr%2F%0A2020-03-04%2023_07_20%2F%0Aaccess_log.zip`
	`apr%2F%0A2020-03-04%2023_07_20%2F%0Aactivityreport.json.`
		Path	Yes	None

`api_version`	Specific API version	Path	Yes	None

Example of Request

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
applicationsnapshots/Vision.zip/contents
```

Response

Supported Media Types: `application/json`

Response Header

`fileExtension` - This will have the file extension that can be used to create a file locally. Can contain values such as `zip` or `csv`.

Table 9-57 Parameters

Attribute	Description
`details`	Published in case of errors with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format in case there is an error during download.

```
{
    "details":"Not a valid file.",
    "status":8,
    "links":[{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
applicationsnapshots/s112.csv/contents",
        "action":"GET",
        "rel":"self",
        "data":null
    }]
}
```

Download Sample Code

Java Sample – downloadFile.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java.

```
public class DownloadV1 {

    private String serverUrl ; // PBCS server URL
    private String apiVersion = "v1";
    private String userName ; // Server Username
    private String password ; //Server Password
    private static String fileName ; //snapshot to be downloaded.
    private String domain ;


    public void downloadFile(String fileName) throws Exception {
        HttpURLConnection connection = null;
        InputStream inputStream = null;
```

```
        FileOutputStream outputStream = null;

        try {
            fileName = fileName.replaceAll("/", "\\\\");
            URL url = new URL(
                    String.format(
                            "%s/interop/rest/%s/
applicationsnapshots/%s/contents",
                            serverUrl, apiVersion,
                            URLEncoder.encode(fileName, "UTF-8")));

            System.out.println("DOWNLOAD URL: " + url);
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod("GET");
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty(
                    "Authorization",
                    "Basic "
                            + new
sun.misc.BASE64Encoder().encode((userName
                                    + ":" + password).getBytes()));
            int status = connection.getResponseCode();
            if (status == 200) {
                if (connection.getContentType() != null
                        && connection.getContentType().equals(
                                "application/json")) {
                    JSONObject json = new JSONObject(
                            getStringFromInputStream(connection
                                    .getInputStream()));
                    System.out.println("Error downloading file : "
                            + json.getString("details"));
                } else {
                    String response =
getStringFromInputStream(connection
                            .getInputStream());
                    String pingURL = fetchPingUrlFromResponse(response,
                            "Job Status");

                    getJobStatusDownload(pingURL, "GET");
                }
            } else {
                throw new Exception("Http status code: " + status);
            }
        } finally {
            if (connection != null)
                connection.disconnect();
            if (outputStream != null)
                outputStream.close();
            if (inputStream != null)
                inputStream.close();
        }
    }
```

```
    private void downloadContent(String downloadURL) throws Exception {
        HttpURLConnection connection = null;
        InputStream inputStream = null;
        FileOutputStream outputStream = null;

        try {
            URL url = new URL(downloadURL);
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod("GET");
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty(
                    "Authorization",
                    "Basic "
                            + new sun.misc.BASE64Encoder().encode((userName
                                    + ":" + password).getBytes()));
            connection.setRequestProperty("Content-Type",
                    "application/x-www-form-urlencoded");
            int status = connection.getResponseCode();

            if (status == 200) {
                if (connection.getContentType() != null
                        && connection.getContentType().equals(
                                "application/json")) {
                    JSONObject json = new JSONObject(
                            getStringFromInputStream(connection
                                    .getInputStream()));
                    System.out.println("Error downloading file : "
                            + json.getString("details"));
                } else {
                    inputStream = connection.getInputStream();
                    String downloadedFileName = fileName;
                    if (fileName.lastIndexOf("/") != -1) {
                        downloadedFileName = fileName.substring(fileName
                                .lastIndexOf("/") + 1);
                    }

                    String ext = ".zip";
                    if (connection.getHeaderField("fileExtension") != null) {
                        ext = "." +
connection.getHeaderField("fileExtension");
                    }
                    if (fileName.lastIndexOf(".") != -1
                            && fileName.lastIndexOf(".") != 0)
                        ext = fileName.substring(fileName.lastIndexOf(".") +
1);

                    outputStream = new FileOutputStream(new File(
                            downloadedFileName + ext));
                    int bytesRead = -1;
                    byte[] buffer = new byte[5 * 1024 * 1024];
```

```
                    while ((bytesRead = inputStream.read(buffer)) !=
-1)
                        outputStream.write(buffer, 0, bytesRead);
                    System.out.println("File download completed.");

                }
            } else {
                throw new Exception("Http status code: " + status);
            }
        } finally {
            if (connection != null)
                connection.disconnect();
            if (outputStream != null)
                outputStream.close();
            if (inputStream != null)
                inputStream.close();
        }
    }

        private void getJobStatusDownload(String pingUrlString, String
methodType)
            throws Exception {
        boolean completed = false;
        while (!completed) {

            String pingResponse = executeRequest(pingUrlString,
methodType,
                    null, "application/x-www-form-urlencoded");
            JSONObject json = new JSONObject(pingResponse);
            int status = json.getInt("status");
            if (status == -1) {
                try {
                    System.out.println("Please wait...");
                    Thread.sleep(20000);
                } catch (InterruptedException e) {
                    completed = true;
                    throw e;
                }
            } else {
                if (status > 0) {
                    System.out.println("Error occurred: "
                            + json.getString("details"));
                } else {
                    String downloadURL =
fetchPingUrlFromResponse(pingResponse,
                            "Download link");
                    downloadContent(downloadURL);
                }
                completed = true;
            }
        }
    }

}
```

cURL Sample – DownloadFile.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
#!/bin/sh


SERVER_URL=""
USERNAME=""
PASSWORD="1"

API_VERSION="v1"
FILENAME=$1


funcDownloadContent(){
  output=`cat pingResponse.txt`
  count=`echo $output | jq '.links | length'`

        i=0
        pingUrlC=""
        while [ $i -lt $count ]; do
                rel=`echo $output | jq '.links['$i'].rel'`
                rel=`echo "$rel" | tr -d "\""`

        if [ "$rel" == "Download link" ]; then
                                pingUrlC=`echo $output | jq
'.links['$i'].href'`
                                pingUrlC=`echo "$pingUrlC" | tr -d "\""`
                fi
                i=`expr $i + 1`
        done

        #request has to be get
        statusWrite=`curl -s -w "%{http_code}" -u "$USERNAME:$PASSWORD" --
request GET -D "respHeader.txt" -o "$1"  -H "Content-Type: application/x-www-
form-urlencoded" "$pingUrlC"`

         if [ $statusWrite == 200 ]; then

                 contentType=`echo $(grep 'Content-Type:' respHeader.txt) |
tr -d [:space:]`
                 #contentbody=`cat writeResponse.txt`
                 if [ ! -z $contentType ] && [[ $contentType = *"application/
json"* ]]; then
                         echo "Error occurred. "
                 else
                        fileExtension=`echo $(grep -r "fileExtension: "
respHeader.txt | awk  '{print ($2)}') | tr -d [:space:]`

                          if [ ! -z $fileExtension ]; then
                if [[ ! $filepath =~ \.$fileExtension$ ]]; then
                    mv "$1" "$1".$fileExtension
                fi
```

```
            fi
                    echo "Downloade file successfully"
                fi
fi
 funcRemoveTempFiles "response.txt" "respHeader.txt"
}

funcDownloadFile() {

        filepath="/u01/$FILENAME"
    encodedFileName=$(echo $FILENAME | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/contents


      statusCode=`curl -X GET -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD"  -H "Content-Type: application/x-www-form-
urlencoded" -D "respHeader.txt" -o "response.txt" $url`

             if [ $statusCode == 200 ]; then

               contentType=`echo $(grep 'Content-Type:'
respHeader.txt) | tr -d [:space:]`
             contentbody=`cat response.txt`

               if [  -z $contentType ] && [[ $contentType =
*"application/json"* ]]; then
            output=`cat $filepath`
            error=`echo $output | jq '.details'`
            echo "Error occurred. " $error
            funcRemoveTempFiles $filepath
        else
            funcGetStatus "GET"

        fi

               else
                        echo "Error executing request"
                        if [ $statusCode != 000 ]; then
                                 echo "Response error code :
" $statusCode
                                 funcPrintErrorDetails "response.txt"
                                 funcRemoveTempFiles "respHeader.txt"
"response.txt"
                        fi
                        exit 0
               fi


#funcRemoveTempFiles "respHeader.txt" "response.txt"

}
funcDownloadFile $FILENAME
```

Groovy Sample – DownloadFile.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
class DownloadV1 {

     def serverUrl ; // PBCS server URL
     def apiVersion = "v1";
     def userName ; //Server Username
     def password ; //Server Password
     def fileName ; //Snapshot to be downloaded



     void downloadFile(def fileName) throws Exception {
        HttpURLConnection connection = null;
        InputStream inputStream = null;
        FileOutputStream outputStream = null;

        try {
            fileName = fileName.replaceAll("/", "\\\\");
            URL url = new URL(String.format("%s/interop/rest/%s/
applicationsnapshots/%s/contents", serverUrl,
                    apiVersion, URLEncoder.encode(fileName, "UTF-8")));

            println "DOWNLOAD URL: "+url
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod("GET");
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty("Authorization",
                    "Basic " + new sun.misc.BASE64Encoder().encode((userName
+ ":" + password).getBytes()));
            connection.setRequestProperty("Content-Type", "application/x-www-
form-urlencoded");
            int status = connection.getResponseCode();
            if (status == 200) {
                if (connection.getContentType() != null &&
connection.getContentType().equals("application/json")) {
                    JSONObject json = new
JSONObject(getStringFromInputStream(connection.getInputStream()));
                    println "Error downloading file : " +
json.getString("details")
                } else {
                    def response =
getStringFromInputStream(connection.getInputStream());
                    def pingURL = fetchPingUrlFromResponse(response, "Job
Status");

                    getJobStatusDownload(pingURL, "GET");
                }
            } else {
                throw new Exception("Http status code: " + status);
```

```
            }
        } finally {
            if (connection != null)
                connection.disconnect();
            if (outputStream != null)
                outputStream.close();
            if (inputStream != null)
                inputStream.close();
        }
    }



    private void downloadContent(def downloadURL) throws Exception {
        HttpURLConnection connection = null;
        InputStream inputStream = null;
        FileOutputStream outputStream = null;

        try {
            URL url = new URL(downloadURL);
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod("GET");
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty("Authorization",
                    "Basic " + new
sun.misc.BASE64Encoder().encode((userName + ":" +
password).getBytes()));
            connection.setRequestProperty("Content-Type",
"application/x-www-form-urlencoded");
            int status = connection.getResponseCode();
            if (status == 200) {
                if (connection.getContentType() != null &&
connection.getContentType().equals("application/json")) {
                    JSONObject json = new
JSONObject(getStringFromInputStream(connection.getInputStream()));
                    System.out.println("Error downloading file : " +
json.getString("details"));
                } else {
                    inputStream = connection.getInputStream();

                    def downloadedFileName = fileName;
                    if(fileName.lastIndexOf("/") != -1) {
                        downloadedFileName =
fileName.substring(fileName.lastIndexOf("/") + 1);
                    }
                    String ext = ".zip";
                    if(connection.getHeaderField("fileExtension") !
=null){
                        ext =
"."+connection.getHeaderField("fileExtension");
                    }
```

```
                    if(fileName.lastIndexOf(".") != -1 &&
fileName.lastIndexOf(".") != 0)
                        ext = fileName.substring(fileName.lastIndexOf(".")
+1);
                    outputStream = new FileOutputStream(new
File(downloadedFileName+ext));
                    int bytesRead = -1;
                    byte[] buffer = new byte[5 * 1024 * 1024];
                    while ((bytesRead = inputStream.read(buffer)) != -1)
                        outputStream.write(buffer, 0, bytesRead);
                    System.out.println("File download completed.");

                }
            } else {
                throw new Exception("Http status code: " + status);
            }
        } finally {
            if (connection != null)
                connection.disconnect();
            if (outputStream != null)
                outputStream.close();
            if (inputStream != null)
                inputStream.close();
        }
    }

    private void getJobStatusDownload(def pingUrlString, def methodType)
throws Exception {
        boolean completed = false;
        while (!completed) {
            def pingResponse = executeRequest(pingUrlString, methodType,
null, "application/x-www-form-urlencoded");
            JSONObject json = new JSONObject(pingResponse);
            int status = json.getInt("status");
            if (status == -1) {
                try {
                    System.out.println("Please wait...");
                    Thread.sleep(20000);
                } catch (InterruptedException e) {
                    completed = true;
                    throw e;
                }
            } else {
                if (status > 0) {
                    println "Error occurred: " + json.getString("details")
                } else {
                    def downloadURL = fetchPingUrlFromResponse(pingResponse,
"Download link");
                    downloadContent(downloadURL);
                }
                completed = true;
            }
        }
    }
```

```
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Download Application Snapshot (v2)

The Download Application Snapshot (v2) REST API downloads the application snapshot from EPM repository to the local location from where client is being run.

This API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/v2/files/download`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-58 Tasks for Download Application Snapshot

Task	Request	REST Resource
Initiate download	POST	`/interop/rest/v2/files/download`
Status of compression of file	GET	`/interop/rest/v2/status/download/7234359469022936`
Download link	GET	`/interop/rest/v2/files/download/7234359469022936`
Deletion of temporary file (Applicable to snapshots)	DELETE	`/interop/rest/v2/files/download/7234359469022936`

The following table summarizes the GET request parameters.

Table 9-59 Parameters

Name	Description	Type	Required	Default
`fileName`	Application snapshot name or to download (for example, `"Artifact Snapshot"`).	Payload	Yes	None

Response

Supported Media Types: `application/json`

Response Header

`fileExtension` - This will have the file extension that can be used to create a file locally. Can contain values such as `zip` or `csv`.

Table 9-60 Parameters

Attribute	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

Example of Downloading with Postman

To download a file named `snapshot.zip`, select Basic Authorization header for all the requests.

Example URL and Payload to Initiate Download

Request Method: POST

Supported Media Types: `application/json`

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/files/download
```

```
{
    "fileName": "snapshot.zip"
}
```

Example Response 1

```
{
    "details": null,
    "status": -1,
    "links": [
```

```
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
files/download",
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/download/7236073834203988",
            "action": "GET",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"fileName":"snapshot.zip"}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
v2/files/download'
```

Example URL for Status of Compression File

Request Method: GET

Supported Media Types: `application/json`

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/download/7236073834203988
```

Example Response 2

```
{
    "details": null,
    "status": 0,
    "items": null,
    "links": [
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/v2/status/download/
7236073834203988",
            "action": "GET",
            "rel": "self",
            "data": null
        },
        {
            "href": "https://<SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/v2/files/download/
7236073834203988",
            "action": "GET",
            "rel": "Download link",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
v2/status/download/7237042873146169'
```

Example URL and Payload for Download Link

Request method: POST

Supported Media Types: `application/json`

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/files/download/7236073834203988
```

Example Response 3

After receiving the response, if the content type is `application/json`, then there would be an error on the server and refer to details. Otherwise, if it's `application/octet-stream`, then the content to be downloaded is part of the response and can read from the response body.

Sample cURL command

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -o snapshot.zip -D respHeader.txt -
H
'Content-Type: application/json' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/files/
download/7237042873146169'
```

Example URL and Payload for Deletion of Temporary File

Request method: DELETE

Supported Media Types: `application/json`

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/files/download/7236073834203988
```

Example Response 4

```
{
    "details": null,
```

```
    "status": 0,
    "links": [
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
files/download/7236073834203988",
            "action": "DELETE",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X DELETE -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H
'Content-Type: application/json' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
files/
download/7237042873146169'
```

Copy Application Snapshot (v1)

Use this API (v1) to copy a snapshot from one environment (source) to another environment (target).

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

This API is executed on the target environment after details are provided for the source environment from which the snapshot is to be copied.

Prerequisites: The password of the source EPM Cloud environment must have already been encrypted using EPM Automate. The encrypted password must then be passed as one of the parameters for the `copysnapshot` REST API. See the *encrypt* command in Command Reference in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

This REST API is version v1.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/v1/services/{servicename}/copysnapshot`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-61 Tasks for Copy Application Snapshot

Task	Request	REST Resource
Trigger `copysnapshot`	POST	`/interop/rest/{api_version}/services/{servicename}/copysnapshot`
Retrieve `copysnapshot` status	GET	`/interop/rest/{api_version}/services/{servicename}/copysnapshot/777`

Parameters:

The following table summarizes the POST request parameters.

Table 9-62 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version, such as v1	Path	Yes	None
`serviceName`	Name of the service, such as PBCS	Path	Yes	None
`snapshotName`	Name of the snapshot to be copied	Form	Yes	None
`userName`	User with access to the source instance	Form	Yes	None
`fpwd`	The encrypted password for the source user to be passed as a string. The encrypted password must then be passed as one of the parameters for the REST API. For information on encrypting and generating the `password.epw` password file with EPM Automate, see the *encrypt* command in Command Reference in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.	Form	Yes	None
`sourceURL`	The URL of the source instance **Note**: This API also supports the previous name of this parameter, `targetURL`.	Form	Yes	None

Response

Supported Media Types: `application/x-www-form-urlencoded`

Table 9-63 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link

Table 9-63 (Cont.) Parameters

Name	Description
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status of the copy snapshot
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{"status":-1, "items": null, "links":[{"rel":"self", "href":"https://
<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v1/services/PBCS/
copysnapshot","data":null,"action":"POST"},{"rel":"Job
Status","href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
services/PBCS/copysnapshot/
1502357937045","data":null,"action":"GET"}],"details":null
```

Java Sample – CopySnapshot.java

```
//
// BEGIN - copysnapshotfrominstance
//
public void copysnapshot() throws Exception {

String snapshotName = "SNAPSHOT NAME";
String srcUserName = "USER NAME";
String targetURL = "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com";
String srcEPWfilePath = "C:\\logs\\pwd.epw";
String srcDomain = null;

String urlString = String.format("%s/interop/rest/v1/services/PBCS/
copysnapshot", serverUrl);

String fpwd = fetchPwdFromFile(srcEPWfilePath);
String params = null;

if (null == srcDomain) {
 params = "snapshotName=" + snapshotName + "&userName=" + srcUserName
+ "&fpwd=" + fpwd + "&sourceURL="
                    + targetURL;
} else {
 params = "snapshotName=" + snapshotName + "&userName=" + srcUserName
+ "&fpwd=" + fpwd + "&sourceURL="
                    + targetURL + "&dom=" + srcDomain;
}
```

```
String response = executeRequest(urlString, "POST", params, "application/x-
www-form-urlencoded");

getJobStatus(fetchPingUrlFromResponse(response, "Job Status"), "GET");
}

private String fetchPwdFromFile(String filePath) {
        BufferedReader br = null;

        try {
            br = new BufferedReader(new FileReader(filePath));
            String line = null;
            String pwdString = null;
            while ((line = br.readLine()) != null) {
                pwdString = line;
            }
            return pwdString;
        } catch (Exception e) {
        } finally {
            if (null != br)
                try {
                    br.close();
                } catch (IOException e) {
                    // TODO Auto-generated catch block
                    e.printStackTrace();
                }

        }

        return null;
}
//
// END - copysnapshotfrominstance
//
```

cURL Sample – copysnapshot.sh

```
funcCopySnapshot() {
        url=$SERVER_URL/interop/rest/v1/services/PBCS/copysnapshot

        snapshotName="SNAPSHOT NAME"
        srcUserName="USER NAME"
        targetURL="https://<SERVICE NAME>-TENANT
NAME>.pbcs.<dcX>.oraclecloud.com"
        srcEPWfilePath="pwd.epw"
        srcDomain=""

        fpwd=`cat $ srcEPWfilePath`

if [ "X" == "X$ srcDomain " ]; then
param="snapshotName=$snapshotName&userName=$srcUserName
&fpwd=$fpwd&sourceURL=$targetURL"
else
param="snapshotName=$snapshotName&userName=$srcUserName
```

```
&fpwd=$fpwd&targetURL=$sourceURL&dom=$srcDomain"
fi

        funcExecuteRequest "POST" $url $param "application/x-www-form-
urlencoded"
        output=`cat response.txt`
        status=`echo $output | jq '.status'`
        if [ $status == -1 ]; then
        echo "Started Copysnapshot"
        funcGetStatus "GET"
        else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
        fi
        funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – copysnapshot.groovy

```
def copy() {

    def url;
    def params;

    try {

    snapshotName = "test";
    srcUserName = "epm_default_cloud_admin";
    sourceURL = "https://<SERVICE NAME>-TENANT
NAME>.pbcs.<dcX>.oraclecloud.com";
    srcEPWfilePath = "pwd.epw";
    fpwd = fetchPwdFromFile(srcEPWfilePath);
    srcDomain = null;

    //println fpwd
    if (null == srcDomain) {
            params = "snapshotName=" + snapshotName + "&userName=" +
srcUserName + "&fpwd=" + fpwd + "&targetURL=" + targetURL;
    } else {
            params = "snapshotName=" + snapshotName + "&userName=" +
srcUserName + "&fpwd=" + fpwd + "&targetURL="    + targetURL + "&dom="
+ srcDomain;
    }
    //println params
    url = new URL(serverUrl + "/interop/rest/v1/services/PBCS/
copysnapshot");
    } catch (MalformedURLException e) {
    println "Incorrect URL. Please a pass valid URL"
    System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-
form-urlencoded");

    if (response != null) {
```

```
        getJobStatus(fetchPingUrlFromResponse(response, "Job Status"),
"GET");
    }

}

def fetchPwdFromFile(filePath) {
        BufferedReader br = null;

        try {
            br = new BufferedReader(new FileReader(filePath));
            String line = null;
            String pwdString = null;
            while ((line = br.readLine()) != null) {
                pwdString = line;
            }
            return pwdString;
        } catch (Exception e) {
        } finally {
            if (null != br)
                try {
                    br.close();
                } catch (IOException e) {
                    // TODO Auto-generated catch block
                    e.printStackTrace();
                }

        }

        return null;
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Copy Application Snapshot (v2)

Use this REST API (v2) to copy a snapshot from one environment (source) to another environment (target).

This API is executed on the target environment after details are provided for the source environment from which the snapshot is to be copied.

Prerequisites: The password of the source EPM Cloud environment must have already been encrypted using EPM Automate. The encrypted password must then be passed as one of the parameters for the `copyfrominstance` REST API. See the *encrypt* command in Command Reference in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

This REST API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/v2/snapshots/copyfrominstance`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-64 Tasks for Copy Application Snapshot

Task	Request	REST Resource
Trigger `copysnapshot`	POST	`/interop/rest/v2/snapshots/copyfrominstance`
Retrieve `copysnapshot` status	GET	`/interop/rest/v2/status/jobs/777`

Parameters:

The following table summarizes the POST request parameters.

Table 9-65 Parameters

Name	Description	Type	Required	Default
`snapshotName`	Name of the snapshot to be copied	Payload	Yes	None
`userName`	User with the Service Administrator predefined role in the source instance	Payload	Yes	None
`fpwd`	The encrypted password for the source user to be passed as a string. For information on encrypting and generating the `password.epw` password file with EPM Automate, see the *encrypt* command in Command Reference in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.	Payload	Yes	None
`sourceURL`	The URL of the source instance	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/snapshots/copyfrominstance
```

```
{
  "snapshotName": "<NAME>",
  "userName": "<USERNAME>",
  "fpwd": "e0VQTUFUfWtWV3czam8xdDJlcFZJbUVhSVQ3VWc9PS5lcHcyMDE1LmFkbW",
"sourceURL": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 9-66 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status of the copy snapshot
`data`	null

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "status": -1,
    "items": null,
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/snapshots/
copyfrominstance",
        "data": null,
        "action": "POST"
    }, {
        "rel": "Job Status",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
jobs/1502357937045",
        "data": null,
        "action": "GET"
```

```
    }],
    "details": null
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"snapshotName":"SNAPSHOT_TO_BE_COPIED",
"sourceURL":"SOURCE_URL","userName":"USER_NAME","fpwd":"ENCRYPTED_PASSW
ORD"}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
snapshots/copyfrominstance'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Rename Application Snapshot (v1)

This API renames a snapshot in EPM Cloud instances to a desired name. This gives you flexibility in naming your snapshots.

This REST API is version v1.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

PUT `/interop/rest/{api_version}/renamesnapshot`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-67 Parameters

Name	Description	Type	Required	Default
{api_version}	The version of the API, such as v1.	Path	Yes	None
snapshotName	The name of the snapshot to be renamed.	Form	Yes	None
newSnapshotName	The desired name of the existing snapshot.	Form	Yes	None

Response

Supported Media Types: `application/json`

Parameters:

Table 9-68 Parameters

Name	Description
details	In the case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "links":[{
"https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v1/renamesnapshot",
         "rel":"self",
         "data":null,
         "action":"PUT"
      }
   ],
   "details":null,
   "status":0
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Rename Application Snapshot (v2)

The Rename Application Snapshot (v2) REST API renames a snapshot in EPM Cloud instances to a desired name. This gives you flexibility in naming your snapshots.

This API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

PUT `/interop/rest/v2/snapshots/rename`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-69 Parameters

Name	Description	Type	Required	Default
`snapshotName`	The name of the snapshot to be renamed.	Payload	Yes	None
`newSnapshotName`	The desired name of the existing snapshot.	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
snapshots/rename
```

```
{
    "snapshotName": "Artifact Snapshot",
    "newSnapshotName": "Backup_snapshot"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 9-70 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	null

Example of Response Body

```
{
    "details": null,
    "status": 0,
    "links": [
        {
            "href": " https://<SERVICE_NAME>-
            <TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/
rest/v2/snapshots/rename",
            "action": "PUT",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL Command

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H 'Content-Type: application/json' -d '{"snapshotName":"Artifact
Snapshot" , "newSnapshotName" :
"Original snapshot"}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com
/interop/rest/v2/snapshots/rename'
```

Copy to and from the Object Store

This table table shows the REST APIs to copy a file or a backup snapshot from the outbox of the current cloud environment (the source) to the Oracle Object Storage Cloud (the target). It also shows the REST APIs to copy a file or a backup snapshot from the Oracle Object

Storage Cloud (the source) to the cloud environment (the target). These REST APIs are version v1 and v2.

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-71 Application Snapshot Service

Task	Request	REST Resource
Copy to Object Store (v1)	POST	`/interop/rest/v1/services/copytoobjectstore`
Copy to Object Store (v2)	POST	`/interop/rest/v2/objectstorage/copyto`
Copy from Object Store (v1)	POST	`/interop/rest/v1/services/copyfromobjectstore`
Copy from Object Store (v2)	POST	`/interop/rest/v2/objectstorage/copyfrom`

Copy from Object Store (v1)

Use the Copy from Object Store (v1) REST API to copy a file or a backup snapshot from the Oracle Object Storage Cloud (the source) to the cloud environment (the target). If you are copying a backup snapshot, this API copies it from the Object Storage bucket and extracts its contents in Oracle Enterprise Performance Management Cloud.

This topic describes the v1 version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

> **Note:**
>
> The Object Storage requires an *Other Web Services Provider* type. Ensure that you have access to the Web service you are connecting. You must also have URLs for the Web service and an login details if required. For information see, Connecting to External Web Services in *Administering Planning*.

This REST API is version v1.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v1/services/copyfromobjectstore`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-72 Tasks for Copy from Object Store

Task	Request	REST Resource
Trigger `copyfromobjectstore`	POST	`/interop/rest/v1/services/copyfromobjectstore`
Retrieve `copyfromobjectstore` status	GET	`/interop/rest/v1/services/jobs/777`

Table 9-73 Parameters

Name	Description	Type	Required	Default
`url`	The URL of the Object Store, appended with the bucket name and the name of the object to be copied. The URL format: `https://swiftobjectstorage.region_identifier.oraclecloud.com/v1/namespace/bucket_name/object_name` Components of this URL: • region_identifier is a Oracle Cloud Infrastructure hosting region. • namespace is the top-level container for all buckets and objects. Each Oracle Cloud Infrastructure tenant is assigned a unique system-generated and immutable Object Storage namespace name at account creation time. Your tenancy's namespace name, for example, axaxnpcrorw5, is effective across all regions. • bucket_name is the name of a logical container where you store your data and files. Buckets are organized and maintained under compartments. A system generated bucket name, for example, bucket-20210301-1359 reflects the current year, month, day, and time. • object_name is the name of the snapshot or file that you want to copy from Oracle Object Storage Cloud. For more information, see these topics in Oracle Cloud Infrastructure Documentation: • Regions and Availability Domains • Understanding Object Storage Namespaces • Managing Buckets	Form	Yes	None

Table 9-73 (Cont.) Parameters

Name	Description	Type	Required	Default
`username`	The ID of a user who has the required access rights to write to Oracle Object Storage Cloud. For users created in a federated identity provider, specify the fully-qualified name of the user (for example, `exampleIdP/jdoe` or `exampleIdP/john.doe@example.com`, where `exampleIdP` is the name of the federated identity provider). For other users, provide the User ID.	Form	Yes	None
`password`	The Swift password or auth token associated with the user. This password is not the same as the password that you use to sign into the Object Storage Console. Auth token is an Oracle-generated token that you use to authenticate with third-party APIs, for example to authenticate with a Swift client. For instructions to create this token, see To create an auth token in *Oracle Cloud Infrastructure Documentation* .	Form	Yes	None
`targetfile`	Name of the target filename (with path) of the downloaded artifact. When copying snapshots, do not specify the ZIP extension. Examples: Artifact Snapshot_24_Sept_2020, inbox/File_new.txt	Form	Yes	None

Response

Supported Media Types: `application/json`

Table 9-74 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{"status":-1, "items": null, "links":[{"rel":"self", "href":"https://
<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v1/services/
copyfromobjectstore","data":null,"action":"POST"},{"rel":"Job
Status","href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
```

```
services/jobs/1502357937045","data":null,"action":"GET"}],"details":null
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Copy from Object Store (v2)

Use the Copy from Object Store (v2) REST API to copy a file or a backup snapshot from the Oracle Object Storage Cloud (the source) to the cloud environment (the target). If you are copying a backup snapshot, this API copies it from the Object Storage bucket and extracts its contents in Oracle Enterprise Performance Management Cloud.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. This API is backwards compatible.

> **Note:**
>
> The Object Storage requires an *Other Web Services Provider* type. Ensure that you have access to the Web service you are connecting. You must also have URLs for the Web service and an login details if required. For information see, Connecting to External Web Services in *Administering Planning*.

This REST API is version v2.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v2/objectstorage/copyfrom`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-75 Tasks

Task	Request	REST Resource
Trigger `copyfromobjectstore`	POST	`/interop/rest/v2/objectstorage/copyfrom`

Table 9-75 (Cont.) Tasks

Task	Request	REST Resource
Retrieve `copyfromobjectstore` status	GET	`/interop/rest/v2/status/jobs/777`

Table 9-76 Parameters

Name	Description	Type	Required	Default
`url`	The URL for Oracle Cloud Object Storage, appended with the bucket name and an optional object name. This is the URL format: : `https://swiftobjectstorage.region_identifier.oraclecloud.com/v1/namespace/`*`bucket_name`*`/`*`object_name`* Components of this URL: • **region_identifier** is a Oracle Cloud Infrastructure hosting region. • **namespace** is the top-level container for all buckets and objects. Each Oracle Cloud Infrastructure tenant is assigned a unique system-generated and immutable Object Storage namespace name at account creation time. Your tenancy's namespace name, for example, axaxnpcrorw5, is effective across all regions. • **bucket_name** is the name of a logical container where you store your data and files. Buckets are organized and maintained under compartments. A system-generated bucket name, for example, bucket-20210301-1359 reflects the current year, month, day, and time. • **object_name** is the name of the snapshot or file that you want to copy from Oracle Object Storage Cloud. For more information, see these topics in Oracle Cloud Infrastructure Documentation: • Regions and Availability Domains • Understanding Object Storage Namespaces • Managing Buckets	Payload	Yes	None
`userName`	The ID of a user who has the required access rights to write to Oracle Object Storage Cloud. For users created in a federated identity provider, specify the fully-qualified name of the user (for example, `exampleIdP/jdoe` or `exampleIdP/john.doe@example.com`, where `exampleIdP` is the name of the federated identity provider). For other users, provide the User ID.	Payload	Yes	None

Table 9-76 (Cont.) Parameters

Name	Description	Type	Required	Default
password	The Swift password or auth token associated with the user. This password is not the same as the password that you use to sign into the Object Storage Console. Auth token is an Oracle-generated token that you use to authenticate with third-party APIs, for example to authenticate with a Swift client. For instructions to create this token, see To create an auth token in *Oracle Cloud Infrastructure Documentation* .	Payload	Yes	None
targetFile	Name of the target filename (with path) of the downloaded artifact. When copying snapshots, do not specify the ZIP extension. Examples: Artifact Snapshot_24_Sept_2020, inbox/File_new.txt	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/objectstorage/copyfrom
```

```
{
    "url":"https://swiftobjectstorage.<region_identifier>.oraclecloud.com/v1/
namespace/bucket_name/object_name",
    "userName": "epm_user",
    "password": "epm_password",
    "targetFile": "Artifact snapshot"
}
```

Response

Supported Media Types: `application/json`

Table 9-77 Parameters

Name	Description
details	In the case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "details": null,
    "status": -1,
    "items": null,
    "links": [
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com /interop/rest/v2/
objectstorage/copyfrom",
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com /interop/rest/v2/
status/jobs/4003051833546274",
            "action": "GET",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

Sample cURL Command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"url":"OBJECT_STORAGE_URL","userName":"USER_NAME","password":"PASSWOR
D","targetFile":"FILEPATH/FILENAME"}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
objectstorage/copyfrom'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Copy to Object Store (v1)

Use the Copy to Object Store (v1) REST API to copy a file or a backup snapshot from the current cloud environment (the source) to the Oracle Object Storage Cloud (the target). You can copy any file or snapshot available in the EPM Cloud. For example, if you export data to a file, the exported file is stored in the Outbox. You can then use this API to copy the file directly to Oracle Object Storage, assuming you have an account.

This topic describes the v1 version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and

does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

> **Note:**
>
> The Object Storage requires an *Other Web Services Provider* type. Ensure that you have access to the Web service you are connecting. You must also have URLs for the Web service and an login details if required. For information see, Connecting to External Web Services in *Administering Planning*.

This REST API is version v1.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v1/services/copytoobjectstore`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-78 Tasks for Copy to Object Store

Task	Request	REST Resource
Trigger `copytoobjectstore`	POST	`/interop/rest/v1/services/copytoobjectstore`
Retrieve `copytoobjectstore` status	GET	`/interop/rest/v1/services/jobs/777`

Parameters:

The following table summarizes the request parameters.

Table 9-79 Parameters

Name	Description	Type	Required	Default
`url`	Oracle Object Storage Cloud bucket with an optional object name appended. The URL format without object name: `https://swiftobjectstorage.region_identifier.oraclecloud.com/v1/namespace/`*`bucket_name`* The URL format with object name: `https://swiftobjectstorage.region_identifier.oraclecloud.com/v1/namespace/`*`bucket_name`*`/`*`object_name`* Components of this URL: • **region_identifier** is an Oracle Cloud Infrastructure hosting region. • **namespace** is the top-level container for all buckets and objects. Each Oracle Cloud Infrastructure tenant is assigned a unique system-generated and immutable Object Storage namespace name at account creation time. Your tenancy's namespace name, for example, axaxnpcrorw5, is effective across all regions. • **bucket_name** is the name of a logical container where you store your data and files. Buckets are organized and maintained under compartments. A system generated bucket name, for example, bucket-20210301-1359 reflects the current year, month, day, and time. • **object_name**, optionally, is name that you want to use for the file on Oracle Object Storage Cloud. If an object name is not specified, the file will be copied with its original name. For more information, see these topics in Oracle Cloud Infrastructure Documentation: • Regions and Availability Domains • Understanding Object Storage Namespaces • Managing Buckets	Form	Yes	None
`username`	The ID of a user who has the required access rights to write to Oracle Object Storage Cloud. For users created in a federated identity provider, specify the fully-qualified name of the user (for example, `exampleIdP/jdoe` or `exampleIdP/john.doe@example.com`, where `exampleIdP` is the name of the federated identity provider). For other users, provide the User ID.	Form	Yes	None

Table 9-79 (Cont.) Parameters

Name	Description	Type	Required	Default
password	The Swift password or auth token associated with the user. This password is not the same as the password that you use to sign into the Object Storage Console. Auth token is an Oracle-generated token that you use to authenticate with third-party APIs, for example to authenticate with a Swift client. For instructions to create this token, see To create an auth token in *Oracle Cloud Infrastructure Documentation* .	Form	Yes	None
filepath	Name of the file (with path) to be copied to the Store. If you are copying a snapshot, do not specify the ZIP extension. Examples: Artifact Snapshot, inbox/File.txt	Form	Yes	None

Sample request payload:

```
url: https://swiftobjectstorage.<region_identifier>.oraclecloud.com/v1/
epmclouddev/epm_artifact_snapshot
username: <username>
password: <password>
filepath: Artifact Snapshot
```

Response

Supported Media Types: `application/json`

Table 9-80 Parameters

Name	Description
details	In the case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body.

```
{
    "status": -1,
    "items": null,
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/services/
```

```
copytoobjectstore",
        "data": null,
        "action": "POST"
    }, {
        "rel": "Job Status",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
services/jobs/1502357937045",
        "data": null,
        "action": "GET"
    }],
    "details": null
}
```

The password parameter value is clear text.

```
copyToObjectStore Sample code:

public void copyToObjectStore() throws Exception {

    String filepath = "FILE NAME/FILE PATH";
    String username = "USER NAME";
    String url = "https://
swiftobjectstorage.<region_identifier>.oraclecloud.com/v1/<namespace>/
<bucket_name>";
    String password = "PASSWORD";

    String urlString = String.format("%s/interop/rest/v1/services/
copytoobjectstore", serverUrl);

    String params = "url=" + url + "&userName=" + username +
"&password=" + password + "&filepath=" +filepath;

    String response = executeRequest(urlString, "POST", params,
"application/x-www-form-urlencoded");

    getJobStatus(fetchPingUrlFromResponse(response, "Job Status"),
"GET");
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Copy to Object Store (v2)

Use the Copy to Object Store (v2) REST API to copy a file or a backup snapshot from the current cloud environment (the source) to the Oracle Object Storage Cloud (the target). You can copy any file or snapshot available in the EPM Cloud. For example, if

you export data to a file, the exported file is stored in the Outbox. You can then use this API to copy the directly to Oracle Object Storage, assuming you have an account.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. This API is backwards compatible.

> **Note:**
>
> The Object Storage requires an *Other Web Services Provider* type. Ensure that you have access to the Web service you are connecting. You must also have URLs for the Web service and an login details if required. For information see, Connecting to External Web Services in *Administering Planning*.

This REST API is version v2.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v2/objectstorage/copyto`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-81 Tasks

Task	Request	REST Resource
Trigger `copytoobjectstore`	POST	`/interop/rest/v2/objectstorage/copyto`
Retrieve `copytoobjectstore` status	GET	`/interop/rest/v2/status/jobs/777`

The following table summarizes the request parameters.

Table 9-82 Parameters

Name	Description	Type	Required	Default
`url`	The URL for Oracle Cloud Object Storage, appended with the bucket name and an optional object name. This is the URL format without the object name: `https://swiftobjectstorage.region_identifier.oraclecloud.com/v1/namespace/`*`bucket_name`* This is the URL format with the object name: `https://swiftobjectstorage.region_identifier.oraclecloud.com/v1/namespace/`*`bucket_name/object_name`* Components of this URL: • **region_identifier** is a Oracle Cloud Infrastructure hosting region. • **namespace** is the top-level container for all buckets and objects. Each Oracle Cloud Infrastructure tenant is assigned a unique system-generated and immutable Object Storage namespace name at account creation time. Your tenancy's namespace name, for example, axaxnpcrorw5, is effective across all regions. • **bucket_name** is the name of a logical container where you store your data and files. Buckets are organized and maintained under compartments. A system-generated bucket name, for example, bucket-20210301-1359 reflects the current year, month, day, and time. • **object_name**, optionally, is a name that you want to use for the file on Oracle Object Storage Cloud. If an object name is not specified, the file will be copied with its original name. For more information, see these topics in Oracle Cloud Infrastructure documentation: • Regions and Availability Domains • Understanding Object Storage Namespaces • Managing Buckets	Payload	Yes	None
`userName`	The ID of a user who has the required access rights to write to Oracle Object Storage Cloud. For users created in a federated identity provider, specify the fully-qualified name of the user (for example, `exampleIdP/jdoe` or `exampleIdP/john.doe@example.com`, where `exampleIdP` is the name of the federated identity provider). For other users, provide the User ID.	Payload	Yes	None

Table 9-82 (Cont.) Parameters

Name	Description	Type	Required	Default
password	The Swift password or auth token associated with the user. This password is not the same as the password that you use to sign into the Object Storage Console. Auth token is an Oracle-generated token that you use to authenticate with third-party APIs, for example to authenticate with a Swift client. For instructions to create this token, see To create an auth token in *Oracle Cloud Infrastructure Documentation* .	Payload	Yes	None
filePath	Name of the file (with path) to be copied to the Object Store. If you are copying a snapshot, do not specify the ZIP extension. Examples: Artifact Snapshot, inbox/File.txt	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/objectstorage/copyto
```

```
{
    "url": "https://
swiftobjectstorage.<region_identifier>.oraclecloud.com/v1/epmclouddev/
epm_artifact_snapshot",
    "userName": "username",
    "password": "password",
    "filePath": "Artifact Snapshot"
}
```

Response

Supported Media Types: `application/json`

Table 9-83 Parameters

Name	Description
details	In the case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "status": -1,
    "items": null,
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
objectstorage/copyto",
        "data": null,
        "action": "POST"
    }, {
        "rel": "Job Status",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/jobs/1502357937045",
        "data": null,
        "action": "GET"
    }],
    "details": null
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"url":"OBJECT_STORAGE_URL","userName":"USER_NAME","password":"PASSWOR
D","filePath":"FILEPATH/FILENAME"}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
objectstorage/copyto'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Working with Essbase

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 9-84 Working with Essbase

Task	Request	REST Resource
Export Essbase Data (v2)	POST	`/interop/rest/v2/essbase/export`
Essbase Block Analysis Report	POST	`/interop/rest/diag/v1/services/essbaseblockanalysisreport`
Get Essbase Query Governor Execution Time	GET	`/interop/rest/{api_version}/config/services/essbaseqrygovexectime`
Set Essbase Query Governor Execution Time	PUT	`/interop/rest/{api_version}/config/services/essbaseqrygovexectime`

Export Essbase Data (v2)

The Export Oracle Essbase (v2) REST API exports level 0 or all data for the specified cube. Export data files are written to the Outbox directory as a zip file. You can download it using the EPM Automate downloadFile command or the Download REST API. Running an export places the cube into read-only mode and prevents any write activity during the period of the execution of the export.

This API is version v2.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v2/essbase/export`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-85 Parameters

Name	Description	Type	Required	Default
`cubeName`	Name of the BSO or ASO cube	Payload	Yes	None
`fileName`	Name of a zip file in which the Essbase data will be exported. This file will be available in the outbox from where it can be downloaded.	Payload	Yes	None

Table 9-85 (Cont.) Parameters

Name	Description	Type	Required	Default
`level`	The value is 0 or ALL, Level 0 and ALL are valid for BSO cubes. Only level 0 is valid for ASO cubes.	Payload	Yes	level=0

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
essbase/export
```

```
{
    "cubeName": "Plan1",
    "fileName": "Plan1Export.zip",
    "parameters": {
        "level": "0"
    }
}
```

Response

Supported Media Types: `application/json`

Table 9-86 Parameters

Attribute	Description
`details`	In case of errors, details are published with the error string
`status`	See Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible values. Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the re-export operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following are examples of the response body in JSON format.

Response 1 example where the export is in progress:

```
{
    "details": "Essbase Database Export",
    "status": -1,
    "items": null,
    "links": [
```

```
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/essbase/
export",
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
jobs/19974850954170405",
            "action": "GET",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

Response 2 example when export successfully completes:

```
{
    "details": null,
    "status": 0,
    "items": null,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
jobs/19974850954170405",
            "action": "GET",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H
'Content-Type: application/json' -d '{"cubeName": "Plan1","fileName":
"Plan1Export.zip","parameters":{"level": "0" }}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/essbase/
export'
```

Essbase Block Analysis Report

Use this REST API to create an Oracle Essbase Block Analysis Report that helps you analyze Oracle Essbase data to support the tuning of Block Storage Option (BSO) cubes (generally, used for calculations) in your application. The Essbase Block Analysis report is helpful to resolve performance issues resulting from patterns of data; for example, repeated numbers in Essbase BSO cubes.

The Essbase Block Analysis report provides information in these areas:

- **Percentage of blocks with only Zero:** Shows the blocks that contain only zeros as a percentage of all the blocks contained in the export file.
- **Top 10 Repeated Numerical Cell Values By Percentage of Numerical Cells:** Shows the top 10 repeated values as a percentage of all the values in the export file.
- **Top 100 Dense Member Combinations with Repeated Values:** Shows the top 100 dense combinations with repeated values in the cube. The "Cell Value" column shows a value for each member, in the order it appears in the hierarchy, as a different column. For example, if Period is across the column, there will be a different column for January, February, and so on. Other dense dimension(s) appear in the rows. This should help you identify the locations of the repeated values.

Before executing this API, use the Export Essbase Data (v2) API to export the data from the cube for which you want to create the Block Analysis report to a zip file. You may export level0 or all data as needed. Execute this API to create the Block Analysis report for this zip file. The report is created in the outbox; you can use the Download API to download it to a local computer or the Send Email (v1) or Send Email (v2) API to email it.

This API is version v1.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/diag/v1/services/essbaseblockanalysisreport`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the POST request parameters:

Table 9-87 Parameters

Name	Description	Type	Required	Default
`exportDataFile`	Name of the zip file that contains the Essbase data that was previously exported from a BSO cube	Payload	Yes	None
`reportFile`	Name for the HTML formatted Block Analysis Report file	Payload	Yes	None

Sample URL and Payload

```
https//<SERVICE_NAME><TENANT_NAME><SERVICE_TYPE><dcX>.oraclecloud.com/interop/
rest/diag/v1/services/essbaseblockanalysisreport
```

```
{"zipFilename":"essbaseexport.zip","outputFileName":"Essbase.html"}
```

Response

Supported Media Types: `application/json`

Table 9-88 Parameters

Name	Description
`details`	Detailed status of the operation performed.
`status`	See Migration Status Codes
`links`	Detailed information about the link and HTTP call type
`items`	Detailed information about the API
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request

Example of Response Body

```
{
    "details": null,
    "status": -1,
    "items": [],
    "links": [
        {
            "href": http://
phoenix223599.appsdev1.fusionappsdphx1.oraclevcn.com:9380/interop/rest/
diag/v1/services/essbaseblockanalysisreport,
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": http://
phoenix223599.appsdev1.fusionappsdphx1.oraclevcn.com:9380/interop/rest/
diag/v1/services/jobs/537707435156101,
            "action": "GET",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

Get Essbase Query Governor Execution Time

This API returns the Oracle Essbase Query Governor Execution Time (maximum number of seconds that a query can run before Essbase Server terminates it) of all the Essbase cubes.

This API is version v2.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/{api_version}/config/services/essbaseqrygovexectime`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Table 9-89 Request Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None

Response

Supported Media Types: `application/json`

Table 9-90 Response Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

```
{
    "details": null,
    "status": 0,
    "items": [
        {
            "qryexectime": "600"
        }
    ],
    "links": [
        {
            "href": "<uri>/interop/rest/v2/config/services/
essbaseqrygovexectime",
            "action": "GET",
            "rel": "self",
            "data": null
        }
    ]
}
```

Set Essbase Query Governor Execution Time

This API sets the Oracle Essbase Query Governor Execution Time (maximum number of seconds that a query can run before the Essbase Server terminates it) for all the Essbase cubes.

The governor value can be set to any value from 0 to 70000.

This API is version v2.

Required Roles

Service Administrator

REST Resource

PUT `/interop/rest/{api_version}/config/services/essbaseqrygovexectime`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Table 9-91 Request Parameters

Name	Description	Type	Required	Default
api_version	Specific API version	Path	Yes	None
qryexectime	Query Governor Execution Time Value	Payload	Yes	None

Example of Request Body

```
{
  "qryexectime": "600"
}
```

Response

Supported Media Types: application/json

Table 9-92 Response Parameters

Parameters	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Can be self and/or Job Status. If set to Job Status, you can use the href to get the status of the import operation
data	Parameters as key value pairs passed in the request

Example of Response Body

```
{
       "links": [{
              "rel": "self",
              "href": "<uri>/interop/rest/v2/config/services/
essbaseqrygovexectime",
              "data": null,
              "action": "PUT"
       }],
       "details": "null",
       "status": 0,
       "items": null
}
```

Copy a File Between Instances (v1)

Use this API (v1) to copy a file from one environment (source) to another environment (target).

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

This API is executed on the target environment after details are provided for the source environment from which the file is to be copied. This feature gives you flexibility in copying files from one cloud environment to another.

Prerequisites: The password of the source EPM Cloud environment must have already been encrypted using EPM Automate. The encrypted password must then be passed as one of the parameters for the Copy File REST API. See the `encrypt` command in Command Reference in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud.*

This REST API is version v1.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/v1/services/copyfile`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the POST request parameters.

Table 9-93 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version, such as v1	Path	Yes	None
`sourceFileName`	Name of the file to be copied	Form	Yes	None
`userName`	User with access to the source instance	Form	Yes	None

Table 9-93 (Cont.) Parameters

Name	Description	Type	Required	Default
pwd	The location and name of the file containing the encrypted password for the user. The encrypted password must then be passed as one of the parameters for the Copy File REST API. For information on encrypting and generating the password.epw file with EPM Automate, see the encrypt command in Command Reference in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud.*	Form	Yes	None
sourceURL	The URL of the source instance	Form	Yes	None
targetFileName	Name of the file to be copied to the target environment	Form	Yes	None

Response

Supported Media Types: application/json

Table 9-94 Parameters

Name	Description
details	In the case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: self or Job Status. If the value is set to Job Status, you can use the href to get the status
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{"status":-1, "items": null, "links":[{"rel":"self", "href":"https://
<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v1/services/copyfile","data":null,"action":"POST"},
{"rel":"Job Status","href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
services/jobs/
1502357937045","data":null,"action":"GET"}],"details":null
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Copy a File Between Instances (v2)

Use this REST API (v2) to copy a file from one environment (source) to another environment (target).

This API is executed on the target environment after details are provided for the source environment from which the file is to be copied. This feature gives you flexibility in copying files from one cloud environment to another.

Prerequisites: The password of the source EPM Cloud environment must have already been encrypted using EPM Automate. The encrypted password must then be passed as one of the parameters for the Copy File REST API. See the `encrypt` command in Command Reference in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud.*

This REST API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/v2/files/copyfrominstance`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the POST request parameters.

Table 9-95 Parameters

Name	Description	Type	Required	Default
`sourceFileName`	Name of the file to be copied	Payload	Yes	None
`userName`	User with the Service Administrator predefined role in the source instance	Payload	Yes	None
`pwd`	The location and name of the file containing the encrypted password for the user. For information on encrypting and generating the `password.epw` file with EPM Automate, see the `encrypt` command in Command Reference in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud.*	Payload	Yes	None
`sourceURL`	The URL of the source instance	Payload	Yes	None

Table 9-95 (Cont.) Parameters

Name	Description	Type	Required	Default
`targetFileName`	Name of the file to be copied to the target environment	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/files/
copyfrominstance
```

```
{
  "sourceFileName": "<NAME>",
  "userName": "<USERNAME>",
  "pwd": "<PASSWORDFILE>",
  "sourceURL": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com",
  "targetFileName": "<NAME>"
}
```

Response

Supported Media Types: `application/json`

Table 9-96 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	null

Example of Response Body

The following shows an example of the response body in JSON format.

```
    "status": -1,
    "items": null,
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
files/copyfrominstance",
        "data": null,
```

```
        "action": "POST"
    }, {
        "rel": "Job Status",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
jobs/1502357937045",
        "data": null,
        "action": "GET"
    }],
    "details": null
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H 'Content-Type: application/json' -d
'{"sourceFileName":"FILE_TO_BE_COPIED",
"sourceURL":"SOURCE_URL","userName":"USER_NAME","targetFileName":"TARGET_FILE
NAME","pwd":"ENCRYPTED_PASSWORD"}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/files/
copyfrominstance'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Clone an Environment

Use this REST API to clone the current environment and, optionally, identify domain artifacts (users and predefined roles), Data Management records, audit records, Job Console records, contents of the inbox and outbox, and stored snapshots.

This API is executed on the source environment after details are provided for the target environment to be cloned. It is an alternative to using the Clone Environment feature in a browser or the EPM Automate cloneEnvironment command.

Prerequisites: The password of the target EPM Cloud environment must have already been encrypted using EPM Automate. The encrypted password string must then be passed as one of the parameters for the Clone Environment REST API. See the encrypt command in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.

For considerations with cloning an environment, see Cloning EPM Cloud Environments in *Administering Migration for Oracle Enterprise Performance Management Cloud*.

This REST API is version v1.

Required Roles

Service Administrator

Identity Domain Administrator role is required to clone users and predefined roles.

REST Resource

POST `/interop/rest/v1/services/clone`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the POST request parameters.

Table 9-97 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version, such as v1	Path	Yes	None
`targetUsername`	The ID of a Service Administrator in the target environment. If you plan to clone user and role assignments in the target environment, this user must also have the Identity Domain Administrator role.	Payload	Yes	None
`targetEncryptPassword`	The encrypted password of the user identified by `targetUsername` to be passed as a string. For information on encrypting and generating the password.epw file with EPM Automate, see encrypt in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*.	Payload	Yes	None
`targetURL`	The URL of the environment that will become the cloned environment	Payload	Yes	None
`snapshotName`	Optionally, the name of a snapshot that should be used for cloning. This snapshot must be present in the source environment.	Payload	No	Last maintenance snapshot
`migrateUsers`	Whether to clone users and their predefined and application role assignments, `True` or `False`. For this option to work, the user identified by `targetUsername` must have the Identity Domain Administrator role in the target environment.	Payload	No	`False`
`maintenanceStartTime`	Whether to reset the maintenance start time of the cloned environment to that of the source environment. To keep the current maintenance start time of the target environment, set this value to `False`.	Payload	No	`True`
`dataManagement`	Whether to clone the Data Management records of the source to the target environment for all environments other than Oracle Enterprise Data Management Cloud and Narrative Reporting, `True` or `False`.	Payload	No	`True`

Table 9-97 (Cont.) Parameters

Name	Description	Type	Required	Default
applicationAudit	Whether to clone the application audit data in the source to the target environment for FreeForm, Planning, Planning Modules, Financial Consolidation and Close, and Tax Reporting environments, True or False. Including application audit data while cloning an environment makes the target environment keep the application audit history.	Payload	No	True
jobConsole	Whether to clone the job console data in the source to the target environment for FreeForm, Planning, Planning Modules, Financial Consolidation and Close, and Tax Reporting environments, True or False. Including job console data while cloning an environment makes the target environment keep the job console history.	Payload	No	True
storedSnapshotsAndFiles	Whether to clone the contents of the inbox, outbox, and stored snapshots in the source to the target environment for all environments, True or False. Including stored snapshots and files while cloning an environment makes sure that the stored snapshots and files are not lost. This is useful especially while cloning a Classic environment to an OCI (Gen 2) environment.	Payload	No	False

Example URL and Payload

```
{
   "targetURL":" https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com ",
"targetUserName":"cloneUser@oracle.com",
"targetEncryptPassword":"<targetUserEncryptedPasswordString>",
   "parameters":{"snapshotName":"Artifact Snapshot"
"migrateUsers":"true","maintenanceStartTime":"true",
"dataManagement":"true", "jobConsole":"true", "applicationAudit":"true",
"storedSnapshotsAndFiles":"false"}
}
```

Response

Supported Media Types: application/json

Table 9-98 Parameters

Name	Description
details	In the case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API

Table 9-98 (Cont.) Parameters

Name	Description
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`intermittentStatus`	Status of each step performed; can be polled regularly from the job status URL

Example of Response Body

The following shows an example of the response body in JSON format.

```
{"intermittentStatus":null, "links":[{"rel":"Job
Status","href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
services/
status","data":null,"action":"GET"}],"details":null,"status":-1"items":
null)
```

Example 9-30 Java Sample – CloneEnvironment.java

Prerequisites: json.jar

Common functions: See Appendix A, Common Helper Functions for Java.

```
//
    // BEGIN - Clone Environment
    //
    public void cloneEnvironment() throws Exception {
        String targetUrl = "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com" ;
        String targetUsername = "<Target User name>";
        String encryptedPwdString =
fetchPwdFromFile("epw_file_Path") ; //"<Target system encrypted
password>";
        String snapshotToClone = "Artifact Snapshot";
        JSONObject params = new JSONObject();
        JSONObject payload = new JSONObject();
         //Optional parameters if not passed default values will be
picked
         /*
         params.put("snapshotName", snapshotToClone);
         params.put("migrateUsers", Boolean.TRUE.toString());
         params.put("maintenanceStartTime", Boolean.TRUE.toString());
         params.put("dataManagement", Boolean.TRUE.toString());
         */
         //Mandatory parameters
         payload.put("targetURL", targetUrl);
         payload.put("targetUserName", targetUsername);
         payload.put("targetEncryptPassword", encryptedPwdString);
         payload.put("parameters", params);
```

```
      String urlString = String.format("%s/interop/rest/v1/services/clone",
serverUrl);
      String response = executeRequest(urlString, "POST",
payload.toString(), "application/json");

      getMigrationJobStatus(fetchPingUrlFromResponse(response, "Job
Status"),"GET");
    }

 private String fetchPwdFromFile(String filePath) {
        BufferedReader br = null;

        try {
            br = new BufferedReader(new FileReader(filePath));
            String line = null;
            String pwdString = null;
            while ((line = br.readLine()) != null) {
                pwdString = line;
            }
            return pwdString;
        } catch (Exception e) {
        } finally {
            if (null != br)
                try {
                    br.close();
                } catch (IOException e) {
                    // TODO Auto-generated catch block
                    e.printStackTrace();
                }

        }

        return null;
}
//
// END - Clone Environment
//
```

Example 9-31 cURL Sample – cloneEnvironment.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcCloneEnvironment() {
    url="$SERVER_URL/interop/rest/v1/services/clone"
    local targetUrl="<TargetSystemURL>"
    local targetUserName="<TargetSystemUsername>"
    local targetEncryptedPassword= $(cat $EPWfilePath)
#"<TargetSystemEncryptedPasswordString>"

    #optionalParams="{\"snapshotName\":\"Artifact
Snapshot\",\"migrateUsers\":\"true\",\"maintenanceStartTime\":\"true\",\"data
Management\":\"true\"}"
```

```
param="{\"targetURL\":\"$targetUrl\",\"targetUserName\":\"$targetUserNa
me\",\"targetEncryptPassword\":\"$targetEncryptedPassword\"}"
#,\"parameters\":\"$optionalParams\"}"
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=$(cat response.txt)
    status=$(echo $output | jq '.status')
    if [ $status == -1 ]; then
        echo "CloneEnvironment is in progress.."
        funcGetStatus "GET"
    else
        error=$(echo $output | jq '.details')
        echo "Error occurred. " $error
    fi
}
```

Example 9-32 Groovy Sample – cloneEnvironment.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def
cloneEnvironment(targetURL,targetUsername,targetEncyptedPasswordFile){
    String scenario = "Clone Environment";
    def targetEncyptedPassword =
fetchPwdFromFile(targetEncyptedPasswordFile);
    def json = new JsonBuilder()
    //Optional parameter to be set if needed
   //def optionalParams = [snapshotName: "Artifact Snapshot",
migrateUsers: "true", maintenanceStartTime:
"true" ,dataManagement:"true"]

    def payload = new JsonBuilder()
        payload targetURL: targetURL,
                targetUserName: targetUsername,
                targetEncryptPassword: targetEncyptedPassword //,
                //parameters: optionalParams

    params=payload.toString();
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/v1/services/clone");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/json");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

```
def fetchPwdFromFile(filePath) {
        BufferedReader br = null;

        try {
            br = new BufferedReader(new FileReader(filePath));
            String line = null;
            String pwdString = null;
            while ((line = br.readLine()) != null) {
                pwdString = line;
            }
            return pwdString;
        } catch (Exception e) {
        } finally {
            if (null != br)
                try {
                    br.close();
                } catch (IOException e) {
                    // TODO Auto-generated catch block
                    e.printStackTrace();
                }

        }

        return null;
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Sample cURL Command Basic Auth

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/json' -d '{"targetURL":
" https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com
","targetUserName":
"<TARGET-USERNAME>","targetEncryptPassword":"<TARGET-ENCRYPTED-
PASSWORD>","parameters":
{"snapshotName":"<SNAPSHOT-
NAME>","migrateUsers":"true","maintenanceStartTime":"<TRUE/
FALSE>","dataManagement":
"<TRUE/FALSE>","jobConsole":"<TRUE/FALSE>","applicationAudit":"<TRUE/
FALSE>","storedSnapshotsAndFiles":
"<TRUE/FALSE>"}}' 'https://<EPM-CLOUD-BASE-URL>/interop/rest/v1/services/
clone'
```

Sample cURL Command OAuth 2.0

```
curl -X POST --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/json' -d '{"targetURL":
" https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com
```

```
","targetUserName":
"<TARGET-USERNAME>","targetEncryptPassword":"<TARGET-ENCRYPTED-
PASSWORD>","parameters":
{"snapshotName":"<SNAPSHOT-
NAME>","migrateUsers":"true","maintenanceStartTime":
"<TRUE/FALSE>","dataManagement":"<TRUE/FALSE>","jobConsole":"<TRUE/
FALSE>","applicationAudit":
"<TRUE/FALSE>","storedSnapshotsAndFiles":"<TRUE/FALSE>"}}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/v1/services/clone'
```

Provide Feedback (v11.1.2.3.600)

This feedback service sends feedback or reports an issue to Oracle.

This API is version 11.1.2.3.600.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

POST `/interop/rest/{api_version}/feedback`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 9-99 Parameters

Name	Description
`details`	Published in case of errors with the error string
`status`	See Migration Status Codes
`items`	Details about the resource
`issueRef`	Feedback reference to contact Oracle support
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

Example of Response Body

Supported Media Types: `application/json`

The following shows an example of the response body in JSON format.

```
{
    "details":null,
    "status":0,
    "items":[{"issueRef":"UDR_default_fin_superuser_2015_09_14_11_10_18"}],
    "links":[{
        "data":null,
        "action":"POST",
        "rel":"self",
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
{api_version}/feedback"
    }]
}
```

Provide Feedback Sample Code

Example 9-33 Java Sample – ProvideFeedback.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN - Provide Feedback
//
public void provideFeedback(String description) throws Exception {
    JSONObject params = new JSONObject();
    JSONObject config = new JSONObject();
    config.put("URL",serverUrl);
    params.put("configuration",config);
    params.put("description",description);

    String urlString = String.format("%s/interop/rest/%s/feedback",
serverUrl, lcmVersion);
    String response = executeRequest(urlString, "POST", params.toString(),
"application/json");
    JSONObject json = new JSONObject(response);
    int resStatus = json.getInt("status");
    if (resStatus == 0) {
        System.out.println("Feedback successful");
    } else {
        System.out.println("Error occurred: " + json.getString("details"));
    }
}
//
// END - Provide Feedback
//
```

Example 9-34 cURL Sample – ProvideFeedback.sh

```
funcProvideFeedback() {
    url=$SERVER_URL/interop/rest/$LCM_VERSION/feedback
    description=$(echo $1 | sed -f urlencode.sed)
    param="{\"configuration\":
{\"URL\":\"$SERVER_URL\"},\"description\":\"$description\"}"
    funcExecuteRequest "POST" $url $param "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Feedback successful"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

Example 9-35 Groovy Sample – ProvideFeedback.groovy

```
def provideFeedback(description) {
    def url;
    JSONObject params = new JSONObject();
    try {
        JSONObject config = new JSONObject();
        config.put("URL",serverUrl)
        params.put("configuration",config);
        params.put("description",description);
        url = new URL(serverUrl + "/interop/rest/" + lcmVersion + "/
feedback");
    } catch (MalformedURLException e) {
        println "Malformed URL. Please pass valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params.toString(),
"application/json");

    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == 0 ) {
        println "Feedback successful"
    } else {
        println "Error occurred while listing files"
        if (object.details != null)
            println "Error details: " + object.details
    }
}
```

Prerequisites: json.jar

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Provide Feedback (v2)

The Provide Feedback (v2) feedback service sends feedback or reports an issue to Oracle.

This API is version v2.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

POST `/interop/rest/v2/services/feedback`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `multipart/form-data`

Name	Description	Type	Required	Default
`fileName`	The name of the zip file that you want Oracle support to use to resolve the current issue.	Multipart	Yes	None
`file`	Multiple files like EPM Automate scripts or Fiddler traces required to be submitted to Oracle can be zipped altogether and uploaded.	Multipart	Yes	None
`configuration`	Details of the client, OS, URL, and description of the issue.	Multipart	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/services/feedback
```

Sample Configuration

```
configuration:{"configuration":{"Operating_System": "Windows
10","EPMAutomate_Version":"22.11.12","Java_Vendor":"Oracle
Corporation",
"Java_Version":"1.8.0_341","URL":"http://
slcar287.usdv1.oraclecloud.com:12847"},
"description":"Issue description"}}
```

Response

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 9-100 Parameters

Name	Description
`details`	Published in case of errors with the error string
`status`	See Migration Status Codes
`items`	Details about the resource
`issueRef`	Feedback reference to contact Oracle support
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

Example of Response Body:

```
"details": null,
    "status": 0,
    "items": [
        {
            "issueRef":
"UDR_default_epm_default_cloud_admin_2022_10_11_01_47_10"
        }
    ],
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
services/feedback",
            "action": "POST",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H 'Content-Type: multipart/form-data' -F 'fileName=abc.zip' -F
'configuration={"configuration":{"Operating_System": "Windows 10",
"EPMAutomate_Version":"22.11.12","Java_Vendor":"Oracle Corporation",
"Java_Version":"1.8.0_341","URL":"https://<SERVICE_NAME>-<TENANT_NAME>.
<SERVICE_TYPE>.<dcX>.oraclecloud.com"},"description":"abc"}}' -F 'file=@/
C:/Users/abc/Sample.zip' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.
<dcX>.oraclecloud.com/interop/rest/v2/services/feedback'
```

Send Email (v1)

Use the Send Mail (v1) REST API to send an email to specified recipients, optionally attaching files from EPM Cloud. You can attach any file up to 10 MB in size, other than a snapshot, that is available in EPM Cloud environments. This API can be incorporated into REST API programs and scripts to notify users of various conditions or to send reports.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

The API is asynchronous and returns the Job ID. Use the job status URI to determine whether the process is complete. The presence of status -1 in the response indicates that the process is in progress. Any non-zero status except -1 indicates failure.

This REST API is version v1.

Required Roles

Service Administrator

Table 9-101 Tasks

Task	Request	REST Resource
Trigger `sendmail`	POST	`/interop/rest/<api_version>/services/sendmail`
Retrieve `sendmail` status	GET	`/interop/rest/<api_version>/services/jobs/777`

REST Resource

POST `/interop/rest/<api_version>/services/sendmail`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-102 Parameters

Name	Description	Type	Required	Default
api_version	Specific API version	Path	Yes	None
to	The recipient email addresses separated by semi-colons	Form	Yes	None
subject	The subject for the email	Form	Yes	None
body	The body of the email providing details.	Form	Yes	None
attachments	One or more file names separated by commas to be added as attachments to the email, for example, outbox/Errorfile.txt or inbox/Errorfile2.txt You can attach any file up to 10 MB in size, other than a snapshot, that is available in EPM Cloud environments.	Form	No	None

Sample Request Payload

```
to:abc@oracle.com
subject:EPM
body:EPM weekly email
attachments:apr/2021-08-10 11_30_25/2021-08-10 11_30_25.html
```

Response

Table 9-103 Parameters

Name	Description
details	In the case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: self or Job Status. If the value is set to Job Status, you can use the href to get the status
data	Parameters as key value pairs passed in the request
items	Details about the resource
links	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body

```
{
    "status": -1,
    "items": null,
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/services/
sendmail",
        "data": null,
        "action": "POST"
    }, {
        "rel": "Job Status",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/services/
jobs/1502357937045",
        "data": null,
        "action": "GET"
    }],
    "details": null
}
```

JobID is appended only to the API used to fetch the status of the progress.

Sample code:

```
public void sendMail() throws Exception {

    String to = "RECIPIENT EMAIL ADDRESS";
    String subject = "SUBJECT OF THE MAIL";
    String body = "BODY OF THE MAIL";
    String attachments = "NAME OF THE FILE TO BE ATTACHED";

    String urlString = String.format("%s/interop/rest/v1/services/sendmail",
serverUrl);

    String params = "to=" + to + "&subject=" + subject + "&body=" + body +
"&attachments=" +attachments;

    String response = executeRequest(urlString, "POST", params,
"application/x-www-form-urlencoded");

    getJobStatus(fetchPingUrlFromResponse(response, "Job Status"), "GET");
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Send Email (v2)

Use the Send Mail (v2) REST API to send an email to specified recipients, optionally attaching files from EPM Cloud. You can attach any file up to 10 MB in size, other than a snapshot, that is available in EPM Cloud environments. This API can be incorporated into REST API programs and scripts to notify users of various conditions or to send reports.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. This API is backwards compatible.

The API is asynchronous and returns the Job ID. Use the job status URI to determine whether the process is complete. The presence of status -1 in the response indicates that the process is in progress. Any non-zero status except -1 indicates failure.

This REST API is version v2.

Required Roles

Service Administrator

Table 9-104 Tasks

Task	Request	REST Resource
Trigger `sendmail`	POST	`/interop/rest/v2/mails/send`
Retrieve `sendmail` status	GET	`/interop/rest/v2/status/jobs/777`

REST Resource

POST `/interop/rest/v2/mails/send`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-105 Parameters

Name	Description	Type	Required	Default
`to`	The recipient email addresses separated by semi-colons	Payload	Yes	None
`subject`	The subject for the email	Payload	Yes	None
`body`	The body of the email providing details.	Payload	Yes	None

Table 9-105 (Cont.) Parameters

Name	Description	Type	Required	Default
parameters	Parameters for this REST API	Payload	No	None
attachments	One or more file names separated by commas to be added as attachments to the email, for example, outbox/Errorfile.txt or inbox/Errorfile2.txt You can attach any file up to 10 MB in size, other than a snapshot, that is available in EPM Cloud environments.	Payload	No	None

Sample URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/mails/send
```

```
{
    "to": "<EMAIL_ADDRESS>",
    "subject": "EPM",
    "body": "EPM weekly email",
    "parameters": {
        "attachments":"apr/Feedback 2022-03-01 07_42_04/access_log.zip"
    }
}
```

Response

Table 9-106 Parameters

Name	Description
details	In the case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: self or Job Status. If the value is set to Job Status, you can use the href to get the status
data	Parameters as key value pairs passed in the request
items	Details about the resource
links	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body

```
{
    "status": -1,
    "items": null,
    "links": [{
        "rel": "self",
```

```
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
mails/send",
        "data": null,
        "action": "POST"
    }, {
        "rel": "Job Status",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/jobs/1502357937045",
        "data": null,
        "action": "GET"
    }],
    "details": null
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"subject":"SUBJECT_OF_THE_MAIL",
"to":"RECIPIENT_EMAIL_ADDRESS","body":"BODY_OF_THE_MAIL","parameters":
{"attachments":"NAME_OF_THE_FILE_TO_BE_ATTACHED"}}' 'https://
<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/mails/send'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Skip Updates (v1)

Use the Skip Updates (v1) API to add, list, or remove a skip update request. Using this API, you can ask Oracle to skip applying a monthly update to an environment, or remove all previous skip update requests so that the environment is updated to the main code line. This allows you to skip updates to an EPM Cloud production environment at times when you need to complete time-sensitive tasks, for example, closing a quarter, without creating a service request.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

You can also list the skip update requests currently specified for an environment. You can set skip update requests for a maximum of two update cycles. You cannot skip updates for an environment that is on a one-off patch. Additionally, you cannot skip monthly updates that are more than two months apart from the update that the environment is currently on. For example, if the environment is currently on 20.12, you can skip 21.01 and 21.02 updates, but not 21.03. This gives you better control over monthly and weekly updates.

This REST API is version v1.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v1/services/skipupdate`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-107 Parameters

Name	Description	Type	Required	Default
`type`	The desired action to be performed (Add, List, or Remove)	Form	Yes	None
`version`	The version to be skipped from update, for example, 20.12	Form	No (Yes, only when the type is `Add`)	None
`comment`	The business reason for skipping an update, such as Year End	Form	No (Yes, only when the type is `Add`)	None

Response

Supported Media Types: `application/json`

Table 9-108 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type

Table 9-108 (Cont.) Parameters

Name	Description
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "links":[{
"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
services/skipupdate",
         "rel":"self",
         "data":null,
         "action":"POST"
      }
   ],
   "details":null,
   "status":0
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Skip Updates (v2)

Use the Skip Updates (v2) REST API to add, list, or remove a skip update request. Using this API, you can ask Oracle to skip applying a monthly update to an environment, or remove all previous skip update requests so that the environment is updated to the main code line. This allows you to skip updates to an EPM Cloud production environment at times when you need to complete time-sensitive tasks, for example, closing a quarter, without creating a service request.

You can also list the skip update requests currently specified for an environment. You can set skip update requests for a maximum of two update cycles. You cannot skip updates for an environment that is on a one-off patch. Additionally, you cannot skip monthly updates that are more than two months apart from the update that the environment is currently on. For example, if the environment is currently on 22.10, you can skip 22.11 and 22.12 updates, but not 23.01. This gives you better control over monthly and weekly updates.

This REST API is version v2.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v2/services/skipupdate`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 9-109 Parameters

Name	Description	Type	Required	Default
`type`	The desired action to be performed (Add, List, or Remove)	Payload	Yes	None
`version`	The version to be skipped from update, for example, 22.12	Payload	No (Yes, only when the type is `Add`)	None
`comment`	The business reason for skipping an update, such as Year End	Payload	No (Yes, only when the type is `Add`)	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/services/skipupdate
```

```
{
    "type":"Add",
    "parameters": {
        "version": "22.12",
        "comment": "Year end"
    }
}
```

Response

Supported Media Types: `application/json`

Table 9-110 Parameters

Name	Description
details	In the case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Possible values: self or Job Status. If the value is set to Job Status, you can use the href to get the status
data	null

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "status": 0,
    "items": null,
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
services/skipupdate",
        "data": null,
        "action": "POST"
    }
    "details": null
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"type":"Add","parameters":{"version":"22.10","comment":"Year End"}}'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
services/skipupdate'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

List or Restore Backups - Only for OCI (Gen2) Environments

In OCI (Gen 2) environments, you can use a REST APIs to list available backup snapshots archived by Oracle in the Oracle Object Storage Cloud, or to restore an available backup snapshot archived by Oracle in the Oracle Object Storage Cloud (that is, copy it to the environment).

Table 9-111 List or Restore Backups

Task	Request	REST Resource
List Backups - Only for OCI (Gen 2) Environments	GET	`/interop/rest/v2/backups/list`
Restore Backup - Only for OCI (Gen 2) Environments	POST	`/interop/rest/v2/backups/restore`

List Backups - Only for OCI (Gen 2) Environments

In OCI (Gen 2) environments, you can list available backup snapshots archived by Oracle in the Oracle Object storage Cloud.

You can then restore available backup snapshots (copy them to the environment), To restore backup snapshots in OCI (Gen 2) environments, see Restore Backup. After copying the backup, you can archive it or use it to restore the current environment by yourself. With the List Backups and Restore Backup APIs, you no longer have to create a service request to request a backup from an OCI environment.

This API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

GET `/interop/rest/v2/backups/list`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Response

Supported Media Types: `application/json`

Parameters:

Table 9-112 Parameters

Attribute	Description
`details`	Published in case of errors with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`intermittentStatus`	Stats of each step perormed; can be polled regularly from the job status URL

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "details": null,
    "links": [{
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
backups/list",
        "rel": "self",
        "data": null,
        "action": "GET"
    }],
    "status": 0,
    "items": ["2022-02-16T05:49:15/Artifact_Snapshot.zip",
"2022-02-18T05:44:54/Artifact_Snapshot.zip"]
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Restore Backup - Only for OCI (Gen 2) Environments

In OCI (Gen 2) environments, you can restore an available backup snapshot archived by Oracle in Oracle Object Storage (that is, copy it to the environment).

To view available backup snapshots, see List Backups. If a backup snapshot is available, you can copy it to the current environment using the Restore Backup API.

After copying the backup, you can archive it or use it to restore the current environment by yourself. With the List Backups and Restore Backup APIs, you no longer have to create a service request to request a backup from an OCI environment.

This REST API is version v2.

Required Roles

Service Administrator

Power User assigned to the Migration Administrator Profitability and Cost Management application role

REST Resource

POST `/interop/rest/v2/backups/restore`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the POST request parameters.

Table 9-113 Parameters

Name	Description	Type	Required	Default
`backupName`	The name of the backup snapshot, as listed in the response for List Backups	Payload	Yes	None

Table 9-113 (Cont.) Parameters

Name	Description	Type	Required	Default
`targetName`	The name of the backup snapshot, without an extension, in the target environment	Payload	No	If you do not specify this parameter, the backup snapshot is restored to the target environment pre-pended with the current timestamp, for example, `2022-03-10T06:37:48_Artifact_Snapshot.zip` or `2022-03-30T06:22:35_EPRCS_Backup.tar.gz`.

Example of Request Body

```
{
    "backupName": "2022-02-16T21:00:02/
Artifact_Snapshot_2021-12-16T21:00:02",
    "parameters": {
        "targetName": "Backup_16Dec"
    }
}
```

Response

Supported Media Types: `application/json`

Table 9-114 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status of the copy snapshot
`intermittentStatus`	Status of each step performed; can be polled regularly from the job status URL

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "links": [
        {
            "rel": "self",
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/backups/
restore",
            "data": null,
            "action": "POST"
        },
        {
            "rel": "Job Status",
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
jobs/4534730166024804",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null,
    "status": -1,
    "items": null
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

10

Security REST APIs

This section describes the REST APIs to manage security features in Oracle Enterprise Performance Management Cloud.

Table 10-1 Security

Task	Request	REST Resource
Get Restricted Data Access	GET	`/interop/rest/{api_version}/config/services/restricteddataaccess`
Set Restricted Data Access	PUT	`/interop/rest/{api_version}/config/services/restricteddataaccess`
Get Virus Scan on File Upload	GET	`/interop/rest/{api_version}/config/services/virusscanonfileupload`
Set Virus Scan on File Upload	PUT	`/interop/rest/{api_version}/config/services/virusscanonfileupload`
Manage Permission for Manual Access to Database (v1)	PUT	`/interop/rest/{api_version}/services/dataaccess?accessType={allow|revoke}&disableEmergencyAccess={true|false}`
Manage Permission for Manual Access to Database (v2)	PUT	`/interop/rest/v2/services/setmanualdataaccess`
Set Encryption Key (v1)	PUT	`/interop/rest/{api_version}/services/encryptionkey`
Set Encryption Key (v2)	PUT	`interop/rest/v2/services/setencryptionkey`
View the IP Allowlist - Only for OCI (Gen 2) Environments	GET	`/interop/rest/epmociservice/v2/ipallowlist`
Update the IP Allowlist - Only for OCI (Gen 2) Environments	POST	`/interop/rest/epmociservice/v2/ipallowlist`

Get Restricted Data Access

The Get Restricted Data Access REST API returns *true* if the environment is configured so that "Submit Application Snapshot" cannot be selected by a Service Administrator while submitting Provide Feedback; otherwise, returns *false*.

This REST API is version v2.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/{api_version}/config/services/restricteddataaccess`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the GET request parameters:

Table 10-2 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None

Response

Supported Media Types: `application/json`

Table 10-3 Parameters

Name	Description
`details`	Detailed status of the operation performed.
`status`	See Migration Status Codes
`links`	Detailed information about the link and HTTP call type
`items`	Detailed information about the API
`dataAccessRestriction`	Whether the restricted data access is enabled
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request

Example of Response Body

```
{
    "details": null,
    "status": 0,
    "items": [
        {
            "dataAccessRestriction": "true"
        }
```

```
    ],
    "links": [
        {
            "href": "<uri>/interop/rest/v2/config/services/
restricteddataaccess",
            "action": "GET",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt -
H
'Content-Type: application/json' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/config/
services/restricteddataaccess'
```

Set Restricted Data Access

The Set Restricted Data Access REST API enables/disables the selection of "Submit Application Snapshot" by the Service Administrator while submitting Provide Feedback.

This REST API is version v2.

Required Roles

Service Administrator

REST Resource

PUT `/interop/rest/{api_version}/config/services/restricteddataaccess`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the PUT request parameters:

Table 10-4 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None

Table 10-4 (Cont.) Parameters

Name	Description	Type	Required	Default
`dataAccessRestriction`	Enable/Disable restricted data access; possible values are *true* and *false*	Payload	Yes	None

Example of Request Body

```
{
    "dataAccessRestriction": "true"
}
```

Response

Supported Media Types: `application/json`

Table 10-5 Parameters

Name	Description
`details`	Detailed status of the operation performed.
`status`	See Migration Status Codes
`links`	Detailed information about the link and HTTP call type
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`error`	Detailed information about the error
`data`	Parameters as key value pairs passed in the request

Example of Response Body

```
{
    "details": null,
    "status": 0,
    "items": null,
    "links": [
        {
            "href": "<uri>/interop/rest/v2/config/services/
restricteddataaccess",
            "action": "PUT",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt -
H
'Content-Type: application/json' -d '{"dataAccessRestriction":"true"}'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/config/
services/restricteddataaccess'
```

Get Virus Scan on File Upload

The Get Virus Scan on File Upload REST API returns *true* if virus scan on file upload is enabled; otherise, it returns *false*.

This API is version v2.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/{api_version}/config/services/virusscanonfileupload`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Table 10-6 Request Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None

Response

Supported Media Types: `application/json`

Table 10-7 Response Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes

Table 10-7 (Cont.) Response Parameters

Parameters	Description
items	Detailed information about the API
scanfiles	Indicates whether the virus scan is enabled
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Can be self and/or Job Status. If set to Job Status, you can use the href to get the status of the import operation
data	Parameters as key value pairs passed in the request

Example of Response Body

```
{
       "details": null,
       "links": [{
              "rel": "self",
              "href": "<uri>/interop/rest/v2/config/services/
virusscanonfileupload",
              "data": "null",
              "action": "GET"
       }],
       "status": "0",
       "items": [{
              "scanfiles": "true"
       }]
}
```

Sample cURL command

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H
'Content-Type: application/json' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
config/services/
virusscanonfileupload'
```

Set Virus Scan on File Upload

The Set Virus Scan on File Upload REST API enables/disables the virus scan on a file upload.

This API is version v2.

Required Roles

Service Administrator

REST Resource

PUT `/interop/rest/{api_version}/config/services/virusscanonfileupload`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Table 10-8 Request Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`scanfiles`	Enable/Disable virus scan	Payload	Yes	None

Response

Supported Media Types: `application/json`

Table 10-9 Response Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

```
{
       "links": [{
              "rel": "self",
              "href": "<uri>/interop/rest/v2/config/services/
virusscanonfileupload",
              "data": null,
              "action": "PUT"
       }],
```

```
        "details": "null",
        "status": 0,
        "items": null
}
```

Sample cURL command

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H
'Content-Type: application/json' -d '{"virusscan":"true"}' 'https://
<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
config/services/
virusscanonfileupload'
```

Manage Permission for Manual Access to Database (v1)

Use this API (v1) to manage permission for manual access to database by Oracle.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

This gives you the ability to allow or disallow Oracle personnel to manually access your database in emergency situations when an environment is unresponsive and you have not yet created a service request to investigate the issue.

In an emergency situation, Oracle follows an internal process whereby a high-level development executive, after an independent verification process, permits manual access to the database without your explicit approval. You can also prohibit Oracle from manually accessing the EPM Cloud database, even if a service request to remedy a database issue is open.

This API is version v1.

Required Roles

Service Administrator

REST Resource

PUT `/interop/rest/{api_version}/services/dataaccess?accessType={allow|revoke}&disableEmergencyAccess={true|false}`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 10-10 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`accessType`	Allow or revoke the manual access to database by Oracle, where the value can be `allow` or `revoke`	Query	Yes	None
`disableEmergencyAccess`	Whether to prohibit all manual access to the database. The possible values are `true` and `false`. Setting this parameter value to `true` stops Oracle from manually accessing the database even if a service request is open. Oracle does not recommend setting this parameter value to `true` because Oracle cannot access the database if access is required to troubleshoot and fix a down environment. If the environment is down, you will not be able to issue this REST API to allow Oracle to manually access the database.	Query	No	False

Response

Supported Media Types: `application/json`

Table 10-11 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
Copy
{
"links": [1]
    0:  {
        "rel":"self",    "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/services/
dataaccess?accessType=allow&disableEmergencyAccess=true"
        "data":"null",
        "action":"PUT,
        }-
    -
    "details":"null",
    "status":"0"
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Manage Permission for Manual Access to Database (v2)

Use this REST API (v2) to manage permission for manual access to database by Oracle.

This gives you the ability to allow or disallow Oracle personnel to manually access your database in emergency situations when an environment is unresponsive and you have not yet created a service request to investigate the issue.

In an emergency situation, Oracle follows an internal process whereby a high-level development executive, after an independent verification process, permits manual access to the database without your explicit approval. You can also prohibit Oracle from manually accessing the EPM Cloud database, even if a service request to remedy a database issue is open.

This API is version v2

Required Roles

Service Administrator

REST Resource

PUT `/interop/rest/v2/services/setmanualdataaccess`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 10-12 Parameters

Name	Description	Type	Required	Default
`accessType`	Allow or revoke the manual access to database by Oracle, where the value can be `allow` or `revoke`	Payload	Yes	None
`parameters`				

Table 10-12 (Cont.) Parameters

Name	Description	Type	Required	Default
disableEmergency Access	Whether to prohibit all manual access to the database. The possible values are true and false. Setting this parameter value to true stops Oracle from manually accessing the database even if a service request is open. Oracle does not recommend setting this parameter value to true because Oracle cannot access the database if access is required to troubleshoot and fix a down environment. If the environment is down, you will not be able to issue this REST API to allow Oracle to manually access the database.	Payload	No	False

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/services/setmanualdataaccess
```

```
{
    "accessType": "Revoke",
    "parameters": {
        "disableEmergencyAccess": "False"
    }
}
```

Response

Supported Media Types: application/json

Table 10-13 Parameters

Parameters	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Can be self and/or Job Status. If set to Job Status, you can use the href to get the status of the import operation
data	null

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "details": null,
    "status": 0,
    "links": [
```

```
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
services/setmanualdataaccess",
            "action": "PUT",
            "rel": "self",
            "data": null
        }
    ]
}
```

Common Functions
Sample cURL command

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' -d
'{"accessType":"Revoke","parameters":
{"disableEmergencyAccess":"True"}}' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
services/setmanualdataaccess'
```

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Set Encryption Key (v1)

Provides a Bring Your Own Key (BYOK) solution to include Oracle EPM Cloud in your standard key management rotation.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

The API can be used to set and remove a user-defined encryption key for access to database used in an Oracle EPM Cloud instance.

This is an asynchronous job and uses the job status URI to determine if the operation is complete.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

This API is version v1.

Required Roles

Service Administrator

Table 10-14 Set Encryption Key

Task	Request	REST Resource
Execute a Job	PUT	`/interop/rest/{api_version}/services/encryptionkey`
Retrieve Job Status	GET	`/interop/rest/v1/services/jobs/{jobID}`

The following table summarizes the request parameters.

Table 10-15 Parameters

Name	Description	Type	Required	Default
`Key`	The user-defined encryption key. If empty or no key is passed, encryption is reset.	Form	No	None

Response

Supported Media Types: `application/json`

Table 10-16 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

Response 1 example when job is in progress:

```
{
    "details":null,
    "status":-1,
    "links":[{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/services/
encryptionkey",
        "rel":"self",
        "data":null,
        "action":"PUT"
        },{
        "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/services/
```

```
jobs/777",
        "rel":"Job Status",
        "data":null,
        "action":"GET"
    }]
}
```

Sample Code

Example 10-1 cURL Sample – setencryptionkey.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcSetEncryptionKey() {
        url=$SERVER_URL/interop/rest/v1/services/encryptionkey

        key="xcfddrerghgArfh"       #use a strong key to set the
encryption key
        param="key=$key"

        funcExecuteRequest "PUT" $url $param "application/json"
        output=`cat response.txt`
        status=`echo $output | jq '.status'`
        if [ $status == -1 ]; then
        echo "Setting Encryption Key"
        funcGetStatus "GET"
        else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
        fi
        funcRemoveTempFiles "respHeader.txt" "response.txt"
}


funcResetEncryptionKey() {
        url=$SERVER_URL/interop/rest/v1/services/encryptionkey

        param=""

        funcExecuteRequest "PUT" $url $param "application/json"
        output=`cat response.txt`
        status=`echo $output | jq '.status'`
        if [ $status == -1 ]; then
        echo "Resetting Encryption Key"
        funcGetStatus "GET"
        else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
        fi
        funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Set Encryption Key (v2)

The Set Encryption Key (v2) REST API provides a Bring Your Own Key (BYOK) solution to include Oracle EPM Cloud in your standard key management rotation.

The API can be used to set and remove a user-defined encryption key for access to database used in an Oracle EPM Cloud instance.

This is an asynchronous job and uses the job status URI to determine if the operation is complete.

This API is version v2.

Required Roles

Service Administrator

Table 10-17 Set Encryption Key

Task	Request	REST Resource
Execute a Job	PUT	`/interop/rest/v2/services/setencryptionkey`
Retrieve Job Status	GET	`/interop/rest/v2/status/jobs/777`

REST Resource

PUT `interop/rest/v2/services/setencryptionkey`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 10-18 Parameters

Name	Description	Type	Required	Default
`parameters`				
`key`	The user-defined encryption key. If empty or no key is passed, encryption is reset.	Payload	No	None

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
services/setencryptionkey


   {"parameters": {"key": "se!m+a2J"}}
```

Response

Supported Media Types: `application/json`

Table 10-19 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	null

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "status": -1,
    "items": null,
    "links": [{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
services/setencryptionkey",
        "data": null,
        "action": "PUT"
    }, {
        "rel": "Job Status",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
status/jobs/8921378039543483",
        "data": null,
        "action": "GET"
    }],
    "details": null
}
```

Sample cURL command

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt -
H 'Content-Type: application/json' -d '{"parameters":{"key":"abc"}}'
'https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/services/setencryptionkey'
```

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

View or Update the IP Allowlist - Only for OCI (Gen 2) Environments

In OCI (Gen 2) environments, you can use a REST API to update or list the IP allowlist.

- Use the POST method with the `action` parameter set to `add` to add the IP addresses and Classless Inter-Domain Routings (CIDRs) to the allowlist of your environment.
- Use the POST method with the `action` parameter set to `remove` to remove the IP addresses and CIDRs from the allowlist of your environment.
- Use the GET method to list IP addresses and CIDRs in the allowlist of your environment.

Table 10-20 IP Allowlist

Task	Request	REST Resource
View the IP allowlist	GET	`/interop/rest/epmociservice/v2/ipallowlist`
Update the IP allowlist	POST	`/interop/rest/epmociservice/v2/ipallowlist`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

View the IP Allowlist - Only for OCI (Gen 2) Environments

In OCI (Gen 2) environments, you can use a REST API to list the IP allowlist.

Use the GET method to list IP addresses and CIDRs in the allowlist of your environment.

This REST API is version v2.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/epmociservice/v2/ipallowlist`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

Response

Supported Media Types: `application/json`

Table 10-21 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status.
`items`	List of IP addresses and CIDRs that are set as the allowlist for your environment.

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
epmociservice/v2/ipallowlist",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null,
    "status": 0,
    "items": [
```

```
        "ip_address1/24",
        "ip_address2",
        "ip_address3",
        "ip_address4",
        "ip_address5"
    ]
}
```

Update the IP Allowlist - Only for OCI (Gen 2) Environments

In OCI (Gen 2) environments, you can use a REST API to update the IP allowlist.

Use the POST method with the `action` parameter set to `add` to add the IP addresses and Classless Inter-Domain Routings (CIDRs) to the allowlist of your environment.

Use the POST method with the `action` parameter set to `remove` to remove the IP addresses and CIDRs from the allowlist of your environment.

This REST API is version v2.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/epmociservice/v2/ipallowlist`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the POST request parameters.

Table 10-22 Parameters

Name	Description	Type	Required	Default

`fileName`	The path to a filename with a list of IP addresses and CIDRs that you want to add to or remove from the allowlist.
	If you want the file to be uploaded to the default location, the path is not required and you only need to specify the file name.
	Example: `IPList.txt`
	Each line in the file must be an IP address or CIDR in the following format:
	`xxx.xxx.xxx.xxx`
	`xxx.xxx.xxx.xxx/n`
	Note:
	• Only IP V4 IP addresses are supported.
	• Use CIDR format, rather than individual IP addresses, to specify a continuous range of IP addresses.
		Payload	Yes	None

`action`	Use `add` to add IP addresses and CIDRs to the allowlist of your environment. Use `remove` to remove IP addresses and CIDRs from the allowlist.	Payload	Yes	None

Examples of the Request Body

Example 1: Add to the IP allow list

```
{
    "fileName" : "IPList.txt",
    "action" : "add"
}
```

Example 2: Remove from the IP allow list

```
{
    "fileName" : "IPList.txt",
    "action" : "remove"
}
```

Response

Supported Media Types: `application/json`

Table 10-23 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string

Table 10-23 (Cont.) Parameters

Name	Description
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status of the copy snapshot

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "links": [
        {
            "rel": "self",
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
epmociservice/v2/ipallowlist",
            "data": null,
            "action": "POST"
        },
        {
            "rel": "Job Status",
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
epmociservice/v2/status/jobs/2126145698194859",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null,
    "status": -1,
    "items": null
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

11

Viewing and Setting the Daily Maintenance Window Time

Use these REST APIs to get the current build version and daily maintenance window time, and to set the daily maintenance window time. You can also run the daily maintenance while skipping the scheduled daily maintenance.

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 11-1 Getting and Setting the Daily Maintenance Time

Task	Request	REST Resource
Get the Build Version and Daily Maintenance Time (v1)	GET	`/interop/rest/{api_version}/services/dailymaintenance`
Get the Build Version and Daily Maintenance Window Time (v2)	GET	`/interop/rest/v2/maintenance/getdailymaintenancestarttime`
Setting the Daily Maintenance Time (v1)	PUT	`/interop/rest/{api_version}/services/dailymaintenance?StartTime={N}`
Setting the Daily Maintenance Time (v2)	PUT	`/interop/rest/v2/maintenance/setdailymaintenancestarttime`
Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v1)	POST	`/interop/rest/{api_version}/services/maintenancewindow`
Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v2)	POST	`/interop/rest/v2/maintenance/rundailymaintenance`

Get the Build Version and Daily Maintenance Time (v1)

This API (v1) returns information about the current build version and the scheduled daily maintenance window time.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

This API is version v1.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See About the REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/{api_version}/services/dailymaintenance`

The following table summarizes the request parameters.

Table 11-2 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None

Response

Supported Media Types: `application/json`

Table 11-3 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`items`	Detailed information about the API
`amwTime`	Scheduled start time of the daily maintenance window in 24-hour format in Etc/UTC timezone by default or in the specified time zone when the "showTimeZone" optional parameter is true.
`buildVersion`	Current build version
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"details":null,
"links":[
{
"rel":"self","href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/services/
dailymaintenance",
"data":"null",
"action":"GET"}],
"status":"0",
"items":[
{
"amwTime":"19",
"buildVersion":"16.10.17"}
]
}
```

Get Build Version and Daily Maintenance Time Sample Code

Example 11-1 Java Sample – GetMaintenanceDetails.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN
//
public void getMaintenanceDetails () throws Exception {
    String urlString = String.format("%s/interop/rest/v1/services/
dailymaintenance", serverUrl);
    String response = executeRequest(urlString, "GET", null);
    JSONObject json = new JSONObject(response);
    int resStatus = json.getInt("status");
    if (resStatus == 0) {
        JSONArray fileList = json.getJSONArray("items");
        System.out.println("List of items are :");
        JSONObject jObj = null;
        for(int i=0; i<fileList.length(); i++){
            jObj = (JSONObject)fileList.get(i);
            System.out.println("build version :" +
jObj.getString("buildVersion"));
            System.out.println("AMW time :" + jObj.getString("amwTime"));
            System.out.println("Link :" + ((JSONObject)
((JSONArray)json.getJSONArray("links")).get(0)).getString("href") + "\n");
        }
    }
}
//
// END
//
```

Example 11-2 cURL Sample – GetMaintenanceDetails.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcGetMaintenanceDetails () {
    url=$SERVER_URL/interop/rest/v1/services/dailymaintenance
    funcExecuteRequest "GET" $url

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "List of items :"
        count=`echo $output | jq '.items | length'`
        i=0
        while [ $i -lt $count ]; do
            echo "Build Version : " `echo $output | jq
'.items['$i'].buildVersion'`
            echo "AMW Time :" `echo $output | jq '.items['$i'].amwTime`
            echo "Link :" `echo $output | jq '.links[0].href'`
            echo ""
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 11-3 Groovy Sample – GetMaintenanceDetails.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def getMaintenanceDetails () {
    def url;
    try {
            url = new URL(serverUrl + "/interop/rest/v1/services/
dailymaintenance ")
    } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
    }
    response = executeRequest(url, "GET", null);
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == 0 ) {
        def items = object.items
        println "List of items :"
        items.each{
            println "Build Version : " + it.buildVersion
            println "AMW Time : " + it.amwTime
            println "Link : " + it.links[0].href + "\n"
```

```
        }
    } else {
        println "Error occurred while listing versions"
        if (object.details != null)
                println "Error details: " + object.details
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Get the Build Version and Daily Maintenance Window Time (v2)

This REST API (v2) returns information about the current build version and the scheduled daily maintenance window start time.

This API is version v2

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See About the REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Required Roles

Service Administrator

REST Resource

GET `/interop/rest/v2/maintenance/getdailymaintenancestarttime`

The following table summarizes the request parameters.

Table 11-4 Parameters

Name	Description	Type	Required	Default
`showTimeZone`	Displays the time in the time zone specified while setting it	Query	No	`false`

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/maintenance/getdailymaintenancestarttime?showTimeZone=true
```

Response

Supported Media Types: `application/json`

Table 11-5 Parameters

Parameters	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
items	Detailed information about the API
amwTime	Scheduled start time of the daily maintenance window in 24-hour format in Etc/UTC timezone by default or in the specified time zone when the "showTimeZone" optional parameter is true.
buildVersion	Current build version
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Possible value: self
data	null

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "details": null,
    "status": 0,
    "items": [
        {
            "buildVersion": "22.09.40",
            "amwTime": "19:00",
            "timeZone": "Etc/UTC"
        }
    ],
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
maintenance/getdailymaintenancestarttime",
            "action": "GET",
            "rel": "self",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H 'Content-Type: application/json' 'https://
<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/maintenance/getdailymaintenancestarttime?
showTimeZone=true'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Setting the Daily Maintenance Time (v1)

Use this REST API (v1) to set the daily maintenance window start time.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

Use this REST API to set the daily maintenance window time.

Note: To ensure that the use of this API does not interfere with the Oracle requirement for creating backups, this API will not change the maintenance start time if the daily maintenance process did not run in the last 36 hours.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See About the REST APIs. Using this REST API requires prerequisites. See Prerequisites.

This API is version v1.

Required Roles

Service Administrator

REST Resource

PUT `/interop/rest/{api_version}/services/dailymaintenance?StartTime={N}`

Parameters:

The following table summarizes the request parameters.

Table 11-6 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`StartTime`	Scheduled Time (in HH:00 format using a 24 hour clock) at which the maintenance process should start and an optional time zone. Acceptable start time value range is 00:00 - 23:00. If the start time is not to be set in UTC, specify a valid standard time zone; for example, "14:00 America/Los_Angeles" for 2:00 pm Pacific Standard Time.	Query	Yes	None

Response

Supported Media Types: `application/json`

Table 11-7 Parameters

Parameters	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Possible value: self
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"links": [1]
0:  {
"rel":"self",
"href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
services/dailymaintenance?StartTime=23"
"data":"null",
"action":"PUT,
}-
-
"details":"null",
"status":"0"
}
```

Maintenance Window Time Sample Code

Example 11-4 Java Sample – SetMaintenanceDetails.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN
//
public void setMaintenanceDetails () throws Exception {
    String urlString = String.format("%s/interop/rest/v1/services/
dailymaintenance?StartTime=23", serverUrl);
    String response = executeRequest(urlString, "PUT", null);
    JSONObject json = new JSONObject(response);
    int resStatus = json.getInt("status");
    if (resStatus == 0) {
        System.out.println("Updated successfully");
    }

}
```

```
//
// END
//
```

Example 11-5 cURL Sample – SetMaintenanceDetails.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
uncSetMaintenanceDetails () {
    rl=$SERVER_URL/interop/rest/v1/services/dailymaintenance?StartTime=23
    funcExecuteRequest "PUT" $url

    output='cat response.txt'
    status='echo $output | jq '.status''
    if [ $status == 0 ]; then
        echo "Updated Successfully"
    else
        error='echo $output | jq '.details''
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 11-6 Groovy Sample – SetMaintenanceDetails.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def setMaintenanceDetails () {
    def url;
    try {
            url = new URL(serverUrl + "/interop/rest/v1/services/
dailymaintenance?StartTime=23 ")
    } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
    }
    response = executeRequest(url, "PUT", null);
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == 0 ) {
        println "Updated Successfully"
    } else {
        println "Error occurred while listing versions"
        if (object.details != null)
                println "Error details: " + object.details
    }
}
```

Setting the Daily Maintenance Time (v2)

Use this REST API (v2) to set the daily maintenance window start time.

Note: To ensure that the use of this API does not interfere with the Oracle requirement for creating backups, this API will not change the maintenance start time if the daily maintenance process did not run in the last 36 hours.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See About the REST APIs. Using this REST API requires prerequisites. See Prerequisites.

This API is version v2

Required Roles

Service Administrator

REST Resource

PUT `/interop/rest/v2/maintenance/setdailymaintenancestarttime`

Parameters:

The following table summarizes the request parameters.

Table 11-8 Parameters

Name	Description	Type	Required	Default
`StartTime`	Scheduled time (in HH:00 format using a 24 hour clock) at which the maintenance process should start and an optional time zone. Acceptable start time value range is 00:00 - 23:00. If the start time is not to be set in UTC, specify a valid standard time zone; for example, "14:00 America/Los_Angeles" for 2:00 pm Pacific Standard Time.	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
maintenance/setdailymaintenancestarttime


{"startTime":"08:00"}
```

Response

Supported Media Types: `application/json`

Table 11-9 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string

Table 11-9 (Cont.) Parameters

Parameters	Description
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Possible value: self
data	null

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "details": null,
    "status": 0,
    "items": null,
    "links": [
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
maintenance/setdailymaintenancestarttime",
            "action": "PUT",
            "rel": "self",
            "data": null
       }]
}
```

Sample cURL command

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt -
H 'Content-Type: application/json' -d '{"startTime":"08:00"}' 'https://
<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/
rest/v2/maintenance/setdailymaintenancestarttime'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v1)

Use this API (v1) if you want to run daily maintenance while skipping the scheduled daily maintenance.

This topic describes the original version of this REST API. You can also use the simplified v2 version of the REST API. The v2 version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use. The v2 version is backwards compatible.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See About the REST APIs. Using this REST API requires prerequisites. See Prerequisites.

This API is version v1.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/{api_version}/services/maintenancewindow`

Parameters:

The following table summarizes the request parameters.

Table 11-10 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`skipNext`	Specifies if the set maintenance time should be used, `true` or `false`	String	Yes	`false`

Response

Supported Media Types: `application/json`

Table 11-11 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

- Java Code using `skipNext`:
  `DailyMaintenanceWithSkipNextv1.java Main method: runDailyMaintenanceWithSkipNext() Helper method waitForCompletion`
- Curl Code using `skipNext`:
  `Main method: funcSetMaintenancewithSkipNext`
- Groovy Code using `skipNext`:
  `DailyMaintenanceWithSkipNextv1.groovy Main method: runDailyMaintenanceWithSkipNext()`

Maintenance Window Time Sample Code

Example 11-7 Java Sample – SetMaintenanceDetails.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
public class DailyMaintenanceWithSkipNextv1 {
    private String userName ; // PBCS user name
    private String password ; // PBCS user password
    private String serverUrl ; // PBCS server  URL
    private String lcmVersion = "v1"; // Version of the PBCS API that you are


    public void runDailyMaintenanceWithSkipNext(String comment) throws
Exception {
        Scanner in = null;
        try {

            String skipNext = "false";
            JSONObject params = new JSONObject();


            /*Parameter to Skip the next scheduled maintenance report to be
run .
            It is either true or false
            If true the scheduled daily maintenance is run
            If false the scheduled daily maintenance is skipped*/

            params.put("skipNext", skipNext);

            String urlString = String.format(
                    "%s/interop/rest/%s/services/maintenancewindow",
serverUrl,
                    lcmVersion);
            String response = executeRequest(urlString, "POST",
                    params.toString(), "application/json");
            waitForCompletion(fetchPingUrlFromResponse(response, "Job
Status"),"GET");
        } catch (Exception e) {

        } finally {
            in.close();
        }
```

```
    }


    private void waitForCompletion(String pingUrlString, String
methodType)
            throws Exception {
        boolean completed = false;
        while (!completed) {
            try {
                String pingResponse = executeRequest(pingUrlString,
methodType,
                        null, "application/x-www-form-urlencoded");
                JSONObject json = new JSONObject(pingResponse);
                int status = json.getInt("status");
                if (status == -1) {
                    try {
                        System.out.println("Please wait...");
                        Thread.sleep(20000);
                    } catch (InterruptedException e) {
                        completed = true;
                        throw e;
                    }
                } else {
                    if (status > 0) {
                        System.out.println("Error occurred: "
                                + json.getString("details"));
                    } else {
                        System.out.println("Completed");
                    }
                    completed = true;
                }
            } catch (Exception e) {
                System.out.println(e.getMessage());
                // services are down, waiting to come up
                Thread.sleep(60000);
            }
        }
    }

}
```

Example 11-8 cURL Sample – SetMaintenanceDetails.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
#!/bin/sh
SERVER_URL=""
USERNAME=""
PASSWORD=""
API_VERSION=""
DOMAIN=""
```

```
funcSetMaintenancewithSkipNext () {
        url=$SERVER_URL/interop/rest/v1/services/maintenancewindow

        skipNext="false"

        param="{\"skipNext\":\"$skipNext\"}"
        funcExecuteRequest "POST" $url $param "application/json"

        output=`cat response.txt`
        status=`echo $output | jq '.status'`
        if [ $status == -1 ]; then
          echo "Started Daily Maintainence succesfully"
                funcGetStatus "GET"
        else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
        fi
        funcRemoveTempFiles "respHeader.txt" "response.txt"


}
```

Example 11-9 Groovy Sample – SetMaintenanceDetails.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
class DailyMaintenanceWithSkipNextv1 {


    def userName  // PBCS user name
    def password  // PBCS user password
    def serverUrl  // PBCS server URL
    def lcmVersion = "v1"; // Version of the PBCS API that you are




    void runDailyMaintenanceWithSkipNext() throws Exception {
        def skipNext = "false"; //true or false based on requirement

        JSONObject params = new JSONObject();
        params.put("skipNext",skipNext);

        String urlString = String.format("%s/interop/rest/%s/services/
maintenancewindow", serverUrl, lcmVersion);
        String response = executeRequest(urlString, "POST",
params.toString(), "application/json");
        waitForCompletion(fetchPingUrlFromResponse(response, "Job Status"));
    }

}
```

Running Daily Maintenance While Skipping the Scheduled Daily Maintenance (v2)

Use this REST API (v2) if you want to run daily maintenance with an option to skip the next scheduled daily maintenance.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See About the REST APIs. Using this REST API requires prerequisites. See Prerequisites.

This API is version v2

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/v2/maintenance/rundailymaintenance`

Supported Media Types: `application/json`

Parameters:

The following table summarizes the request parameters.

Table 11-12 Parameters

Name	Description	Type	Required	Default
`skipNext`	Specifies if the next scheduled daily maintenance time should be skipped, `true` or `false`	String	Yes	`false`

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
maintenance/rundailymaintenance
```

Response

Supported Media Types: `application/json`

```
{"skipNext":"true"}
```

Table 11-13 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call

Table 11-13 (Cont.) Parameters

Parameters	Description
action	The HTTP call type
rel	Possible value: self
data	Null

Example of the Response Body

The following shows an example of the response body in JSON format.

```
{
    "details": null,
    "status": -1,
    "items": null,
    "links": [
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
maintenance/rundailymaintenance",
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
service/maintenancewindow/1660115130723",
            "action": "GET",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H 'Content-Type: application/json' -d '{"skipNext":"true"}' 'https://
<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/
rest/v2/maintenance/rundailymaintenance'
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

12
Managing Users

This section describes the REST APIs to manage users.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 12-1 Manage Users

Task	Request	REST Resource
Add Users to an Identity Domain (v1)	POST	/interop/rest/security/<*api_version*>/users
Add Users to an Identity Domain (v2)	POST	/interop/rest/security/v2/users/add
Remove Users from an Identity Domain (v1)	DELETE	/interop/rest/security/<*api_version*>/users?filename=<*filename*>
Remove Users from an Identity Domain (v2)	POST	/interop/rest/security/v2/users/remove
Assign Users to a Predefined Role or Application Role (v1)	PUT	/interop/rest/security/<*api_version*>/users
Assign Users to a Predefined Role or Application Role (v2)	PUT	/interop/rest/security/v2/role/assign/user
Remove Users' Role Assignment (v1)	PUT	/interop/rest/security/<*api_version*>/users
Remove Users' Role Assignment (v2)	PUT	/interop/rest/security/v2/role/unassign/user
Add Users to a Group (v1)	PUT	/interop/rest/security/<api_version>/groups
Add Users to a Group (v2)	PUT	/interop/rest/security/v2/groups/adduserstogroup
Remove Users from a Group (v1)	PUT	/interop/rest/security/<*api_version*>/groups
Remove Users from a Group (v2)	PUT	/interop/rest/security/v2/groups/removeusersfromgroup
Update Users	PUT	/interop/rest/security/<*api_verion*>/users
Add a User to a Batch of Groups	PUT	/interop/rest/security/<*api_version*>/groups
Remove a User from a Batch of Groups	PUT	/interop/rest/security/<*api_version*>/groups
Add Groups (v1)	POST	/interop/rest/security/<*api_version*>/groups
Add Groups (v2)	POST	/interop/rest/security/v2/groups/add
Remove Groups (v1)	DELETE	/interop/rest/security/<*api_version*>/groups

Table 12-1 (Cont.) Manage Users

Task	Request	REST Resource
Remove Groups (v2)	POST	/interop/rest/security/v2/groups/remove
User Group Report (v1)	POST	/interop/rest/security/<api_version>/usergroupreport
User Group Report (v2)	GET	/interop/rest/security/v2/report/usergroupreport
User Access Report (v1)	POST	/interop/rest/{api_version}/reports?q={type:provisionreport,fileName:provreport.csv,format=simplified,usertype=serviceusers}
User Access Report (v2)	POST	/interop/rest/v2/reports/useraccess
User Audit Report (v1)	POST	/interop/rest/{api_version}/reports?q={type:userauditreport,fileName:userauditreport.csv,since=2017-12-10,until=2018-06-10}
User Audit Report (v2)	POST	/interop/rest/v2/reports/useraudit
User Role Assignment Report	POST	/interop/rest/security/{api_version}/roleassignmentreport/
Get Available Roles	GET	/interop/rest/security/v2/role/getavailableroles
Role Assignment Audit Report for OCI (Gen 2) Environments	PUT	/interop/rest/security/{api_version}/roleassignmentauditreport/
Invalid Login Report for OCI (Gen 2) Environments	PUT	/interop/rest/security/{api_version}/invalidloginreport/

Add Users to an Identity Domain (v1)

Creates a batch of users in an identity domain using an ANSI or UTF-8 encoded Comma Separated Value (CSV) file that was previously uploaded to the environment. The CSV file should not include the account of the user who executes this command. You can use the Upload REST API to upload the file. The file should be deleted after the API executes. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed. The file format is as follows:

```
First Name,Last Name,Email,User Login
Jane,Doe,jane.doe@example.com,jdoe
John,Doe,john.doe@example.com,john.doe@example.com
```

This API sends each new user an email with details about their accounts (user name and password) if `resetpassword` is set to `true`. If `resetpassword` is set to `false`, the email is not sent. If you set `resetpassword` to `false`, you should specify `userpassword`. Otherwise, a unique temporary password will be assigned to each user, but, because no email is sent, the passwords will not be known to the users so they will not be able to log in.

See Importing a Batch of User Accounts in *Getting Started with Oracle Cloud* for a detailed description of the CSV file format.

If a user definition in the CSV file matches a user account that exists in the identity domain, no changes will be made to the existing user account. This API creates accounts only for new users whose account information is included in the file. Because user accounts are common to all service environments that an identity domain supports, new users are available to all the environments that share the identity domain.

This API should be run only by an Identity Domain Administrator in the identity domain where users are to be created. In addition, the user running the API must also be the Service Administrator of the environment where the API is targeted.

The API is asynchronous and returns the Job ID. The presence of status -1 in the response indicates that the creation of users is in progress. Use the job status URI to determine whether the creation of users is complete. Any non-zero status except -1 indicates failure of adding users.

This API is version v1.

Required Roles

Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

Table 12-2 Tasks for Add Users

Task	Request	REST Resource
Add users	POST	`/interop/rest/security/<api_version>/users`
Add users status	GET	`/interop/rest/security/<api_version>/jobs/<jobid>`

REST Resource

POST `/interop/rest/security/<api_version>/users`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the POST request parameters.

Table 12-3 Parameters

Name	Description	Type	Required	Default
`filename`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing the users to add, such as `addUsers.csv`.	Form	Yes	None
`userpassword`	Optionally, indicates the default password that you want to assign to all the new users who are created in the identify domain. If specified, this password must meet the minimum identity domain password requirements. If specified, the value of the user password parameter is used as the password for all users specified in the CSV file. Assigning the same password to all users may be desirable if you are creating users purely for testing purposes. If you are creating real EPM Cloud users and want to assign a specific password to each user, use this command without specifying a valid for the `userpassword` optional parameter.	Form	No	None
`resetpassword`	Optionally, indicates whether new users must change password at the first login. Unless this parameter is set to `false`, new users will be forced to change the password at the first login. This parameter sends each new user an email with details about their accounts (user name and password) if `resetPassword` is set to `true`. If `resetPassword` is set to `false`, the email is not sent. **Note**: If you set `resetPassword` to `false`, you should specify `userPassword`. Otherwise, a unique temporary password will be assigned to each user, but, because no email is sent, the passwords will not be known to the users, so they will not be able to log in.	Form	No	`true`

Response

Supported Media Types: `application/json`

Table 12-4 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`links`	Details of the first URL to be requested to get the job details; rel is "Job Details"

Note: This API assigns one password (value of `userpassword`) to all the users specified in the CSV file. Assigning the same password to all users may be desirable if you are creating users purely for testing purposes.

If you are creating real EPM Cloud users and want to assign a specific password to each user, use this API for a single user at a time. That is, specify a single user in the CSV file and provide a password for this user in the API. Then, specify the other user in the CSV file and provide a different password for this user in the API.

When you add users using this API, unlike when you add users from My Services, Oracle Cloud does not send automatic emails to each newly added user. You should manually email credentials (login name and password) to each new user. Additionally, you should force new users to change password at first login by specifying `resetpassword` as true.

Example of Response Body

The following examples show the contents of the response body in JSON format:

Example 1: Job is in Progress

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/users",
      "data": {
        "jobType": "ADD_USERS",
        "filename": "<filename>",
        "resetpassword": "<true|false>"      },
      "action": "POST"
    },
    {
      "rel": "Job Status",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
```

```
<api_version>/users",
      "data": null,
      "action": "GET"
    }
  ],
  "details": null,
  "status": -1,
  "items": null
}
```

Example 2: Job Completes with Errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Failed to add users. Input file <fileName> is not found.
Specify a valid file name.",
  "status": 1,
  "items": null
}
```

Example 3: Job Completes without Errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Processed - 3, Succeeded - 2, Failed - 1.",
  "status": 0,
  "items": [
    {
                "UserName":"<USERNAME>","Error_Details": "User
<USERNAME> already exists. Please provide a different user name."
    }
   ]
 )
```

Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
public void addUsers(String fileName, String userPassword, boolean
resetPassword) {
        try {
            String url = this.serverUrl + "/interop/rest/security/
<api_version>/users";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("userpassword", userPassword);
            reqParams.put("resetpassword", resetPassword + "");

            Map<String, String> resetResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL

```
funcAddUsers() {
    url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
    params="filename=$1&userpassword=$2&resetpassword=$3"
    header="Content-Type: application/x-www-form-urlencoded;charset=UTF-8"
    cssRESTAPI="AddUsers"
    statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
    echo $statusMessage
}
```

Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def addUsers(fileName, resetPassword, userPassword) {
```

```
    String scenario = "Creating users in " + fileName;
    String params = "jobtype=ADD_USERS&filename="+ fileName
+"&resetpassword="+ resetPassword +"&userpassword="+ userPassword;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Sample cURL Command Basic Auth

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/x-www-form-urlencoded' -d
'filename=<CSV-FILE-NAME>&resetpassword=<TRUE/
FALSE>&userpassword=<PASSWORD>'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users'
```

Sample cURL Command OAuth 2.0

```
curl -X POST --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/x-www-form-urlencoded' -d
'filename=<CSV-FILE-
NAME>&resetpassword=<VALUE>&userpassword=<PASSWORD>'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users'
```

Add Users to an Identity Domain (v2)

The Add Users to an Identity Domain (v2) REST API adds users that are provided in the request payload. It sends each new user an email with details about their accounts (user name and password) if `resetpassword` is set to `true`. If `resetpassword` is set to `false`, the email is not sent. If you set `resetpassword` to `false`, you should specify `userpassword`; otherwise, a unique temporary password will be assigned to each user; but, because no email is sent, the users will not know that password and they will not be able to log in. If a user definition in the payload matches a user account that exists in the identity domain, no changes are made to the existing user account. This API creates accounts only for new users whose account information is provided in the payload. Because user accounts are common to all service environments that an identity domain supports, new users are available to all the environments that share the identity domain.

This API should be run only by an Identity Domain Administrator in the identity domain where users will be created. In addition, the user running the API must also be

assigned a predefined role in the environment where the API is targeted. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use.
The API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates failure of adding users.

This API is version v2.
Required Roles

Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

Table 12-5 Tasks for Add Users

Task	Request	REST Resource
Add users	POST	`/interop/rest/security/v2/users/add`

REST Resource

POST `/interop/rest/security/v2/users/add`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the POST request parameters.

Table 12-6 Parameters

Name	Description	Type	Required	Default
`users`	List of users to add	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/security/v2/users/add
```

```
{
    "users":
    [
        {
```

```
            "firstname": "Jane",
            "lastname": "Doe",
            "email": "jane.doe@discard.oracle.com",
            "userlogin": "jdoe",
            "resetpassword": true
        },
        {
            "firstname": "chris",
            "lastname": "west",
            "email": "chris.west@discard.oracle.com",
            "userlogin": "chris",
            "password": "userPassword",
            "resetpassword": false
            }
    ]
}
```

Response

Supported Media Types: `application/json`

Table 12-7 Parameters

Name	Description
`links`	Detailed information about the link and HTTP call type
`status`	Identifies the status of the operation • 0: Operation succeeded • 1: Operation failed
`error`	Detailed information about the error
`details`	Detailed status of the operation performed. Total number of records processed, succeeded, and failed and reason why they failed.

Example of Response Body

The following examples show the contents of the response body in JSON format:

Example 1: Job Completes without Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/users/add",
            "action": "POST"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 3,
        "succeeded": 3,
        "failed": 0,
        "faileditems": null
```

```
    }
}
```

Example 2: Job Completes with Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
users/add",
            "action": "POST"
    },
    "status": 1,
    "error": {
        "errorcode": "EPMCSS-21146",
        "errormessage": "Failed to add users. Invalid or insufficient
parameters specified. Provide all required parameters for the REST API."
    },
    "details": null
}
```

Example 3: Job Completes with Partial Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
users/add",
            "action": "POST"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 5,
        "succeeded": 3,
        "failed": 2,
        "faileditems":
        [
        {
                        "userlogin": "jdoe",
                        "errorcode": "EPMCSS-21150",
                        "errormessage": "Failed to add user. Invalid email
jdoe.com. Please provide a valid email."
                },
                 {
                        "userlogin": "chris",
                        "errorcode": "EPMCSS-21151",
                        "errormessage": "Failed to add user. Missing
[firstname]. Please provide value: [firstname]."
                 }
        ]
    }
}
```

Sample cURL Command Basic Auth

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/json' -d'{"users":
[{"firstname":"<FIRSTNAME>","lastname":"<LASTNAME>",
"email":"<EMAIL>","userlogin":"<USERLOGIN>","password":"<PASSWORD>","re
setpassword":<TRUE/FALSE>}]}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v2/users/add'
```

Sample cURL Command OAuth 2.0

```
curl -X POST --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/json' -d '{"users":
[{"firstname":"<FIRSTNAME>","lastname":"<LASTNAME>",
"email":"<EMAIL>","userlogin":"<USERLOGIN>","password":"<PASSWORD>","re
setpassword":<TRUE/FALSE>}]}
' 'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v2/users/add'
```

Remove Users from an Identity Domain (v1)

Deletes the identity domain accounts identified in an ANSI or UTF-8 encoded CSV file that was uploaded to the environment. Before running this command, use the Upload REST API to upload the file. The file format is as follows:

```
User Login
jane.doe@example.com
jdoe@example.com
```

This API should be run only by Service Administrators who are also assigned to the Identity Domain Administrator role in the identity domain from which users are to be removed. The CSV file should not include the account of the user who executes this command. Because user accounts are common to all service environments that an Identity Domain Administrator supports, deleting an account for one environment deletes it for all environments that share the Identity Domain Administrator. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

The API is asynchronous and returns the Job ID. The presence of status -1 in the response indicates that the removal of users is in progress. Use the job status URI to determine whether the removal of users is complete. Any non-zero status except -1 indicates failure of removing users.

This API is version v1.

Required Roles

Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

Table 12-8 Tasks for Remove Users

Task	Request	REST Resource
Remove users	DELETE	`/interop/rest/security/<api_version>/users?filename=<filename>`
Remove users status	GET	`/interop/rest/security/<api_version>/jobs/`

REST Resource

DELETE `/interop/rest/security/<api_version>/users?filename=<filename>`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the DELETE request parameters.

Table 12-9 Parameters

Name	Description	Type	Required	Default
`filename`	The name of the uploaded ANSI or UTF-8 encoded CSV file name of a CSV file containing the login names of the users to be removed, for example, `removeUsers.csv`.	Query	Yes	None

Response

Supported Media Types: `application/json`

Table 12-10 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource

Table 12-10 (Cont.) Parameters

Name	Description
links	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body in JSON format

Example 1: Response when the job is in progress

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/users?filename=<filename>",
      "data": {
        "jobType": "REMOVE_USERS",
        "filename": "<filename>"
      },
      "action": "DELETE"
    },
    {
      "rel": "Job Status",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/",
      "data": null,
      "action": "GET"
    }
  ],
  "details": null,
  "status": -1,
  "items": null
}
```

Example 2: Response when the job completes with errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Failed to remove users. Input file <filename> is not
found. Specify a valid file name.",
  "status": 1,
```

```
  "items": null
}
```

Example 3: Response when the job completes with no errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>..oraclecloud.com/interop/rest/security/
<api_version>/jobs/",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Processed - 3, Succeeded - 1, Failed - 2.",
  "status": 0,
  "items": [
     {
                                "UserName":"<USERNAME>","Error_Details":
"User <USERNAME> is not found. Verify that the user exists."
    },
}
```

Example 12-1 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java.

```
public void removeUsers(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/
<api_version>/users";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "DELETE");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-2 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL.

```
funcRemoveUsers() {
        url="$SERVER_URL/interop/rest/security/<api_version>/users"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="RemoveUsers"
        statusMessage=$(funcCSSRESTHelper "DELETE" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Groovy Sample Code

CSS Common Helper Functions for Groovy.

```
def deleteUsers(fileName) {

    String scenario = "Deleting users in " + fileName;
    String params = null;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/
<api_version>/users?filename=" + fileName);
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "DELETE", null, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Sample cURL Command Basic Auth

```
curl -X DELETE -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/x-www-form-urlencoded'
```

```
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users?filename=<CSV-
FILE-NAME>'
```

Sample cURL Command OAuth 2.0

```
curl -X DELETE --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/x-www-form-urlencoded'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users?filename=<CSV-
FILE-NAME>'
```

Remove Users from an Identity Domain (v2)

The Remove Users from an Identity Domain (v2) REST API deletes the accounts indentified in an identity domain that are provided in the request payload.

This API should be run only by a user who is assigned to the Identity Domain Administrator role in the identity domain from which users are to be removed. In addition, this user should also have a predefined role in the environment on which the API is run. The payload should not include the account of the user who executes this command. Because user accounts are common to all service environments that an identity domain supports, deleting an account for one environment deletes it for all environments that share the identity domain. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use.

The API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates failure of removing users.

This API is version v2.

Required Roles

Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

Table 12-11 Tasks for Remove Users

Task	Request	REST Resource
Remove users	POST	`/interop/rest/security/v2/users/remove`

REST Resource

POST `/interop/rest/security/v2/users/remove`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the POST request parameters.

Table 12-12 Parameters

Name	Description	Type	Required	Default
`users`	List of user login IDs of the users to remove	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/users/remove
```

```
{
    "users":
    [
        {
            "userlogin": "jdoe"
        },
        {
            "userlogin": "chris"
                }
        ]
}
```

Response

Supported Media Types: `application/json`

Table 12-13 Parameters

Name	Description
`links`	Detailed information about the link and HTTP call type
`status`	Identifies the status of the operation • 0: Operation succeeded • 1: Operation failed
`error`	Detailed information about the error
`details`	Detailed status of the operation performed. Total number of records processed, succeeded, and failed and reason for why it failed.

Example of Response Body

The following examples show the contents of the response body in JSON format:

Example 1: Job Completes without Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
users/remove",
            "action": "POST"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 2,
        "succeeded": 2,
        "failed": 0,
        "faileditems": null
    }
```

Example 2: Job Completes with Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
users/remove",
            "action": "POST"
    },
    "status": 1,
    "error": {
                "errorcode": "EPMCSS-21147",
                "errormessage": "Failed to remove users. Invalid or
insufficient parameters specified. Provide all required parameters for the
REST API."
        },
    "details": null
}
```

Example 3: Job Completes with Partial Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
users/remove",
            "action": "POST"
    },
    "status": 0,
    "error": null,
    "details": {
```

```
        "processed": 5,
        "succeeded": 3,
        "failed": 2,
        "faileditems":
        [
        {
                        "userlogin": "jdoe",
                        "errorcode": "EPMCSS-21174",
                        "errormessage": "Failed to remove user. User
jdoe does not exist. Provide a valid userlogin."
                },
                {
                       "userlogin": "chris",
                        "errorcode": "EPMCSS-21174",
                        "errormessage": " Failed to remove user. User
chris does not exist. Provide a valid userlogin."
                }
        ]
    }
}
```


Sample cURL Command Basic Auth

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/json' -d '{"users":
[{"userlogin":"<USERLOGIN>"},{"userlogin":"<USERLOGIN>"}]}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v2/users/remove'
```

Sample cURL Command OAuth 2.0

```
curl -X POST --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/json'  -d '{"users":
[{"userlogin":"<USERLOGIN>"},{"userlogin":"<USERLOGIN>"}]}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v2/users/remove'
```

Assign Users to a Predefined Role or Application Role (v1)

This API assigns users included in an ANSI or UTF-8 encoded CSV file to a pre-defined or application role. Use this API to assign users (including the user who invokes this API) to a pre-defined role or to assign a user with application roles.

To assign a user to an application role, that user should already have a pre-defined role assigned to them.

Use double quotation marks to enclose role names that contain space characters in the CSV file. Before using this API, use the Upload REST API to upload files to the environment. The file should be deleted after the API executes.

The file format is as follows:

```
User Login
jane.doe@example.com
jdoe
```

The API is asynchronous and returns the Job ID. The presence of status -1 in the response indicates that assigning users is in progress. Use the job status URI to determine whether the assignment of roles is complete. Any non-zero status except -1 indicates failure of assigning users. With this API, you can see which records failed and the reason why they failed, in addition to how many records passed and failed.

This API is version v1.

Required Roles

For predefined roles:

Classic environments: Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

OCI environments: Service Administrator, or Identity Domain Administrator and any predefined role (Power User, User, or Viewer)

For application roles:

Service Administrator or Access Control Manager

Table 12-14 Tasks for Assign Users to Roles

Task	Request	REST Resource
Assign role	PUT	`/interop/rest/security/<api_version>/users`
Assign role status	GET	`/interop/rest/security/<api_version>/jobs/<jobid>`

REST Resource

PUT `/interop/rest/security/<api_version>/users`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the PUT request parameters.

Table 12-15 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`jobtype`	ASSIGN_ROLE	Form	Yes	None
`filename`	The name of the ANSI or UTF-8 encoded CSV file containing the login IDs of the users whose role assignment is to be modified, such as `assignRoles.csv`.	Form	Yes	None

Table 12-15 (Cont.) Parameters

Name	Description	Type	Required	Default
`rolename`	The name of a pre-defined or application role applicable to the service. An incorrect role name will result in an error. It identifies one of the following: • If you are assigning users to a pre-defined identity domain role, roleName should identify a pre-defined role applicable to the service. See *Understanding Predefined Roles* in *Getting Started with Oracle Enterprise Performance Management Cloud for Administrators*. • Acceptable values for services other than Oracle Enterprise Data Management Cloud: – Service Administrator – Power User – User (do not use Planner, which was used in earlier versions of the service) – Viewer • Acceptable values for Oracle Enterprise Data Management Cloud: – Service Administrator – User • If you are assigning users to an application role, roleName should identify an application role listed in the assign roles tab of Access Control. Acceptable values for FreeForm, Planning, Planning Modules, Sales Planning, Strategic Workforce Planning, Financial Consolidation and Close, and Tax Reporting applications: – Approvals Administrator – Approvals Ownership Assigner – Approvals Supervisor – Approvals Proess Designer – Ad Hoc Grid Creator – Ad Hoc User – Ad Hoc Read Only User – Calculation Manager Administrator – Create Integration – Drill Through – Run Integration – Mass Allocation – Task List Access Manager Acceptable values for Account Reconciliation : – Manage Alert Types – Manage Announcements – Manage Data Loads	Form	Yes	None

Table 12-15 (Cont.) Parameters

Name	Description	Type	Required	Default
	– Manage Organizations – Manage Periods – Manage Profiles and Reconciliations – Reconciliation Manage Currencies – Reconciliation Manage Public Filters and Lists – Reconciliation Manage Reports – Reconciliation Manage Teams – Reconciliation Manage Users – Reconciliation Commentator – Reconciliation Preparer – Reconciliation Reviewer – Reconciliation View Jobs – Reconciliation View Profiles – View Audit – View Periods • Acceptable values for Oracle Enterprise Data Management Cloud applications: – Application Creator – Auditor – View Creator • Acceptable values for Oracle Enterprise Profitability and Cost Management applications: – Ad Hoc Grid Creator – Ad Hoc Read Only User – Ad Hoc User – Clear POV Data – Copy POV Data – Create/Edit Rule – Create Integration – Create Model – Create POV – Create Profit Curve – Delete Calculation History – Delete Model – Delete POV – Delete Rule – Drill Through – Edit POV Status – Edit Profit Curve – Mass Edit of Rules – Run Calculation – Run Integration – Run Profit Curve – Run Rule Balancing – Run Trace Allocation – Run Validation – View Calculation History			

Table 12-15 (Cont.) Parameters

Name	Description	Type	Required	Default
	– View Model • Acceptable values for Oracle Enterprise Profitability and Cost Management applications: – Ad Hoc Grid Creator – Ad Hoc Read Only User – Ad Hoc User – Clear POV Data – Copy POV Data – Create/Edit Rule – Create Integration – Create Model – Create POV – Create Profit Curve – Delete Calculation History – Delete Model – Delete POV – Delete Rule – Drill Through – Edit POV Status – Edit Profit Curve – Mass Edit of Rules – Run Calculation – Run Integration – Run Profit Curve – Run Rule Balancing – Run Trace Allocation – Run Validation – View Calculation History – View Model For a description of these roles, see *Managing Role Assignments at the Application Level* in *Administering Access Control for Oracle Enterprise Performance Management Cloud*.			

Response

Supported Media Types: `application/json`

Table 12-16 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type

Table 12-16 (Cont.) Parameters

Name	Description
rel	Possible values: self or Job Status. If the value is set to Job Status, you can use the href to get the status
data	Parameters as key value pairs passed in the request
items	Details about the resource
links	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body in JSON format

Example 1, when the job is in progress:

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/users",
      "data": {
        "jobType": "ASSIGN_ROLE",
        "filename": "<filename>",
        "rolename": "<rolename>"
      },
      "action": "PUT"
    },
    {
      "rel": "Job Status",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobid>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": null,
  "status": -1,
  "items": null
}
```

Example 2, when the job completes with errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobid>",
      "data": null,
```

```
      "action": "GET"
    }
  ],
  "details": " Failed to assign role for users. Input file <filename> is not
found. Specify a valid file name.",
  "status": 1,
  "items": null
}
```

Example 3, when the job completes without errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/jobs/<jobid>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Processed - 3, Succeeded - 2, Failed - 1.",
  "status": 0,
  "items": [
    {
                "UserName":"<USERNAME>","Error_Details": "User <USERNAME> is
not found. Verify that the user exists."
    }
  ]
}
```

Example 12-3 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java.

```
public void assignRole(String fileName, String roleName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "ASSIGN_ROLE");
            reqParams.put("rolename", roleName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
```

```
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-4 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL.

```
funcAssignRole() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1&jobtype=ASSIGN_ROLE&rolename=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="AssignRole"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy.

```
def assignUsersRoles(fileName, roleName) {

    String scenario = "Assigning users in " + fileName + " with role "
+ roleName;
    String params = "jobtype=ASSIGN_ROLE&filename="+ fileName
+"&rolename="+ roleName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Sample cURL Command Basic Auth

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/x-www-form-urlencoded' -d
'jobtype=ASSIGN_ROLE&filename=<CSV-FILE-NAME>&rolename=<ROLENAME>'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users'
```

Sample cURL Command OAuth 2.0

```
curl -X PUT --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/x-www-form-urlencoded' -d
'jobtype=ASSIGN_ROLE&filename=<CSV-FILE-NAME>&rolename=<ROLENAME>'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users'
```

Assign Users to a Predefined Role or Application Role (v2)

The Assign Users to a Predefined Role or Application Role (v2) REST API assigns a pre-defined or an application role to users provided in the REST API payload. To assign a user to an application role, that user should already have a pre-defined role assigned to them.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use.

The API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates that assigning users to roles failed. With this API, you can see which records failed and the reason why they failed, in addition to how many records passed and failed.

This API is version v2.

Required Roles

For predefined roles:

Classic environments: Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

OCI environments: Service Administrator, or Identity Domain Administrator and any predefined role (Power User, User, or Viewer)

For application roles:

Service Administrator or Access Control Manager

Table 12-17 Tasks for Assign Users to Roles

Task	Request	REST Resource
Assign role	PUT	`/interop/rest/security/v2/role/assign/user`

REST Resource

PUT `/interop/rest/security/v2/role/assign/user`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the PUT request parameters.

Table 12-18 Parameters

Name	Description	Type	Required	Default
`rolename`	The name of a pre-defined or application role applicable to the service. An incorrect role name will result in an error. It identifies one of the following: • If you are assigning users to a pre-defined role, roleName should identify a pre-defined role applicable to the service. See "*Understanding Predefined Roles*" in *Getting Started with Oracle Enterprise Performance Management Cloud for Administrators.* • Acceptable values for services other than Oracle Enterprise Data Management Cloud: – Service Administrator – Power User – User (do not use Planner, which was used in earlier versions of the service) – Viewer • Acceptable values for Oracle Enterprise Data Management Cloud: – Service Administrator – User • If you are assigning users to an application role, roleName should identify an application role listed in the tab of Access Control. Acceptable values for FreeForm, Planning, Planning Modules, Sales Planning, Strategic Workforce Planning, Financial Consolidation and Close, and Tax Reporting applications: – Approvals Administrator – Approvals Ownership Assigner – Approvals Supervisor – Approvals Process Designer – Ad Hoc Grid Creator – Ad Hoc User – Ad Hoc Read Only User – Calculation Manager Administrator – Create Integration – Drill Through – Run Integration – Mass Allocation – Task List Access Manager Acceptable values for Account Reconciliation:	Payload	Yes	None

Table 12-18 (Cont.) Parameters

Name	Description	Type	Required	Default
	– Manage Alert Types – Manage Announcements – Manage Data Loads – Manage Organizations – Manage Periods – Manage Profiles and Reconciliations – Reconciliation Manage Currencies – Reconciliation Manage Public Filters and Lists – Reconciliation Manage Reports – Reconciliation Manage Teams – Reconciliation Manage Users – Reconciliation Commentator – Reconciliation Preparer – Reconciliation Reviewer – Reconciliation View Jobs – Reconciliation View Profiles – View Audit – View Periods • Acceptable values for Oracle Enterprise Data Management Cloudapplications: – Application Creator – Auditor – View Creator • Acceptable values for Enterprise Profitability and Cost Management applications: – Ad Hoc Grid Creator – Ad Hoc Read Only User – Ad Hoc User – Clear POV Data – Copy POV Data – Create/Edit Rule – Create Integration – Create Model – Create POV – Create Profit Curve – Delete Calculation History – Delete Model – Delete POV – Delete Rule – Drill Through – Edit POV Status – Edit Profit Curve – Mass Edit of Rules – Run Calculation – Run Integration			

Table 12-18 (Cont.) Parameters

Name	Description	Type	Required	Default
	– Run Profit Curve – Run Rule Balancing – Run Trace Allocation – Run Validation – View Calculation History – View Model For a description of these roles, see "*Managing Role Assignments at the Application Level*" in *Administering Access Control for Oracle Enterprise Performance Management Cloud* .			
`users`	List of user login IDs of the users whose role assignment is to be modified.	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/security/v2/role/assign/user
```

```
{
      "rolename": "Service Administrator",
    "users": [
        {
            "userlogin": "jdoe"
                },
                {
      "userlogin": "chris"
                }
        ]
}
```

Response

Supported Media Types: `application/json`

Table 12-19 Parameters

Name	Description
`links`	Detailed information about the link and HTTP call type
`status`	Identifies the status of the operation • 0: Operation Success • 1: Operation Failed
`error`	Detailed information about the error
`details`	Detailed status of the operation performed. Total number of records processed, succeeded, and failed and reason for why it failed.

Example of Response Body

The following examples show the contents of the response body in JSON format:

Example 1: REST API Completes without Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/role/assign/user",
            "action": "PUT"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 3,
        "succeeded": 3,
        "failed": 0,
        "faileditems": null
    }
}
```

Example 2: REST API Completes with Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/role/assign/user",
            "action": "PUT"
    },
    "status": 1,
    "error": {
        "errorcode": "EPMCSS-21000",
        "errormessage": "Failed to assign role. Invalid role name
<rolename>. Please provide a valid role name."
    },
    "details": null
}
```

Example 3: REST API Completes with Partial Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/role/assign/user",
            "action": "PUT"
    },
    "status": 0,
    "error": null,
    "details": {
```

```
        "processed": 5,
        "succeeded": 3,
        "failed": 2,
        "faileditems":
        [
            {
                "userlogin": "jdoe",
                "errorcode": "EPMCSS-21002",
                "errormessage": "Failed to assign role. User jdoe does not
exist. Provide a valid userlogin."
            },
            {
                "userlogin": "chris",
                "errorcode": "EPMCSS-21002",
                "errormessage": "Failed to assign role. User chris does not
exist. Provide a valid userlogin."
            }
        ]
    }
}
```

Sample cURL Command Basic Auth

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/json' -d  '{"rolename":"<ROLENAME>","users":
[{"userlogin":"<USERLOGIN>"},{"userlogin":"<USERLOGIN>"}]}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v2/role/assign/user'
```

Sample cURL Command OAuth 2.0

```
curl -X PUT --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/json' -d  '{"rolename":"<ROLENAME>","users":
[{"userlogin":"<USERLOGIN>"},{"userlogin":"<USERLOGIN>"}]}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v2/role/assign/user'
```

Remove Users' Role Assignment (v1)

Removes one role currently assigned to the users (including the user who invokes this API) whose login IDs are included in the ANSI or UTF-8 encoded CSV file that is used with this command. Before running this API, upload the file to the environment using the Upload REST API. The file should be deleted after the API executes. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

Use double quotation marks to enclose role names that contain the space character.

The API is asynchronous and returns the Job ID. The presence of status -1 in the response indicates that the removal of role assignments is in progress. Use the job status URI to determine whether unassigning roles is complete. Any non-zero status except -1 indicates failure of unassigning roles.

This API is version v1.

Required Roles

For predefined roles:

Classic environments: Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

OCI environments: Service Administrator, or Identity Domain Administrator and any predefined role (Power User, User, or Viewer)

For application roles:

Service Administrator or Access Control Manager

Table 12-20 Tasks for Unassign Users to Roles

Task	Request	REST Resource
Unassign role	PUT	`/interop/rest/security/<api_version>/users`
Unassign role status	GET	`/interop/rest/security/<api_version>/jobs/<jobid>`

REST Resource

PUT `/interop/rest/security/<api_version>/users`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the PUT request parameters.

Table 12-21 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`jobtype`	UNASSIGN_ROLE	Form	Yes	None

Table 12-21 (Cont.) Parameters

Name	Description	Type	Required	Default

`filename`	The name of the ANSI or UTF-8 encoded CSV file containing the users whose role assignment is to be revoked, such as `unssignRole.csv`.
	The CSV file must have been uploaded already using the Upload REST API. The CSV file should not include the account of the user who executes this command.
	File format example:
	
	`User Login`
	`<email>`
	`<FirstName2.LastName2>`
		Form	Yes	None

Table 12-21 (Cont.) Parameters

Name	Description	Type	Required	Default
`rolename`	The name of a pre-defined or application role applicable to the service. An incorrect role name will result in an error. It identifies one of the following: • If you are removing users from a pre-defined role, roleName should identify a pre-defined role applicable to the service. See *Understanding Predefined Roles* in *Getting Started with Oracle Enterprise Performance Management Cloud for Administrators*. • Acceptable values for services other than Oracle Enterprise Data Management Cloud: – Service Administrator – Power User – User (do not use Planner, which was used in earlier versions of the service) – Viewer • Acceptable values for Oracle Enterprise Data Management Cloud: – Service Administrator – User • If you are removing users from an application role, roleName should identify an application role listed in the assign roles tab of Access Control. Acceptable values for Oracle Planning, Oracle Planning Modules, Oracle Financial Consolidation and Close, Sales Planning, Strategic Workforce Planning, and Oracle Tax Reporting applications: – Approvals Administrator – Approvals Ownership Assigner – Approvals Process Desiger – Approvals Supervisor – Ad Hoc Grid Creator – Ad Hoc User – Ad Hoc Read Only User – Calculation Manager Administrator – Create Integration – Drill Through – Run Integration – Mass Allocation – Task List Access Manager • Acceptable values for Account Reconciliation applications: – Manage Alert Types – Manage Announcements – Manage Data Loads	Form	Yes	None

Table 12-21 (Cont.) Parameters

Name	Description	Type	Required	Default
	– Manage Organizations – Manage Periods – Manage Profiles and Reconciliations – Reconciliation Manage Currencies – Reconciliation Manage Public Filters and Lists – Reconciliation Manage Reports – Reconciliation Manage Teams – Reconciliation Manage Users – Reconciliation Commentator – Reconciliation Preparer – Reconciliation Reviewer – Reconciliation View Jobs – Reconciliation View Profiles – View Audit – View Periods • Acceptable values for Oracle Enterprise Data Management Cloud applications: – Application Creator – Auditor – View Creator • Acceptable values for Oracle Enterprise Profitability and Cost Management applications: – Ad Hoc Grid Creator – Ad Hoc Read Only User – Ad Hoc User – Clear POV Data – Copy POV Data – Create/Edit Rule – Create Integration – Create Model – Create POV – Create Profit Curve – Delete Calculation History – Delete Model – Delete POV – Delete Rule – Drill Through – Edit POV Status – Edit Profit Curve – Mass Edit of Rules – Run Calculation – Run Integration – Run Profit Curve – Run Rule Balancing – Run Trace Allocation – Run Validation – View Calculation History			

Table 12-21 (Cont.) Parameters

Name	Description	Type	Required	Default
	– View Model For a description of these roles, see *Managing Role Assignments at the Application Level* in Administering Access Control for Oracle Enterprise Performance Management Cloud.			

Response

Supported Media Types: `application/json`

Table 12-22 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`links`	Details of the first URL to be requested to get the job details; rel is Job Details

Examples of the Response Body in JSON format

Example 1, when the job is in progress

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/users",
      "data": {
        "jobtype": "UNASSIGN_ROLE",
        "filename": "<fileName>",
        "rolename": "<roleName>"
      },
      "action": "PUT"
    },
    {
      "rel": "Job Status",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
```

```
security/<api_version>/jobs/<jobid>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": null,
  "status": -1,
  "items": null
}
```

Example 2, when the job completes with errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com /interop/rest/security/
<api_version>/jobs/<jobid>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Failed to unassign role for users. Input file <filename> is
not found. Specify a valid file name.",
  "status": 1,
  "items": null
}
```

Example 3, when the job completes without errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com /interop/rest/security/
<api_version>/jobs/<jobid>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Processed - 3, Succeeded - 2, Failed - 1.",
  "status": 0,
  "items": [
    {
                "UserName":"<USERNAME>","Error_Details": "User <USERNAME> is
not found. Verify that the user exists."
    }
  ]
}
```

Example 12-5 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
public void unassignRole(String fileName, String roleName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "UNASSIGN_ROLE");
            reqParams.put("rolename", roleName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-6 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL.

```
funcUnassignRole() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1&jobtype=UNASSIGN_ROLE&rolename=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="UnassignRole"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy.

```
def unassignUsersRoles(fileName, roleName) {

    String scenario = "Un-assigning users in " + fileName + " with role " +
roleName;
    String params = "jobtype=UNASSIGN_ROLE&filename="+ fileName
+"&rolename="+ roleName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}
```

Sample cURL Command Basic Auth

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/x-www-form-urlencoded' -d
'jobtype=UNASSIGN_ROLE&filename=<CSV-FILE-NAME>&rolename=<ROLENAME>'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users'
```

Sample cURL Command OAuth 2.0

```
curl -X PUT --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/x-www-form-urlencoded' -d
'jobtype=UNASSIGN_ROLE&filename=<CSV-FILE-NAME>&rolename=<ROLENAME>'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users'
```

Remove Users' Role Assignment (v2)

The Remover Users' Role Assignment (v2) REST API removes a pre-defined or application role from users provided in the REST API payload. To unassign a user from an application role, the user should exist in Oracle Enterprise Performance Management Cloud.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use.

The API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates that removing users from roles failed. With this API, you can see which records failed and the reason why they failed, in addition to how many records passed and failed.

This API is version v2.

Required Roles

For predefined roles:

Classic environments: Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

OCI environments: Service Administrator, or Identity Domain Administrator and any predefined role (Power User, User, or Viewer)

For application roles:

Service Administrator or Access Control Manager

Table 12-23 Tasks for Unassign Users to Roles

Task	Request	REST Resource
Unassign role	PUT	`/interop/rest/security/v2/role/unassign/user`

REST Resource

PUT `/interop/rest/security/v2/role/unassign/user`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the PUT request parameters.

Table 12-24 Parameters

Name	Description	Type	Required	Default
`rolename`	The name of a pre-defined or application role applicable to the service. An incorrect role name will result in an error. It identifies one of the following: • If you are removing users from a pre-defined role, roleName should identify a pre-defined role applicable to the service. See "*Understanding Predefined Roles*" in *Getting Started with Oracle Enterprise Performance Management Cloud for Administrators*. • Acceptable values for services other than Oracle Enterprise Data Management Cloud: – Service Administrator – Power User – User (do not use Planner, which was used in earlier versions of the service) – Viewer • Acceptable values for Oracle Enterprise Data Management Cloud: – Service Administrator – User • If you are removing users from an application role, roleName should identify an application role listed in the Manage Application Roles tab of Access Control. Acceptable values for FreeForm, Planning, Planning Modules, Sales Planning, Strategic Workforce Planning, Financial Consolidation and Close, and Tax Reporting applications: – Approvals Administrator – Approvals Ownership Assigner – Approvals Supervisor – Approvals Process Designer – Ad Hoc Grid Creator	Payload	Yes	None

Table 12-24 (Cont.) Parameters

Name	Description	Type	Required	Default
	– Ad Hoc User – Ad Hoc Read Only User – Calculation Manager Administrator – Create Integration – Drill Through – Run Integration – Mass Allocation – Task List Access Manager Acceptable values for Account Reconciliation: – Manage Alert Types – Manage Announcements – Manage Data Loads – Manage Organizations – Manage Periods – Manage Profiles and Reconciliations – Reconciliation Manage Currencies – Reconciliation Manage Public Filters and Lists – Reconciliation Manage Reports – Reconciliation Manage Teams – Reconciliation Manage Users – Reconciliation Commentator – Reconciliation Preparer – Reconciliation Reviewer – Reconciliation View Jobs – Reconciliation View Profiles – View Audit – View Periods • Acceptable values for Oracle Enterprise Data Management Cloudapplications: – Application Creator – Auditor – View Creator • Acceptable values for Enterprise Profitability and Cost Management applications:			

Table 12-24 (Cont.) Parameters

Name	Description	Type	Required	Default
	– Ad Hoc Grid Creator – Ad Hoc Read Only User – Ad Hoc User – Clear POV Data – Copy POV Data – Create/Edit Rule – Create Integration – Create Model – Create POV – Create Profit Curve – Delete Calculation History – Delete Model – Delete POV – Delete Rule – Drill Through – Edit POV Status – Edit Profit Curve – Mass Edit of Rules – Run Calculation – Run Integration – Run Profit Curve – Run Rule Balancing – Run Trace Allocation – Run Validation – View Calculation History – View Model For a description of these roles, see "*Managing Role Assignments at the Application Level*" in *Administering Access Control for Oracle Enterprise Performance Management Cloud*.			
`users`	List of user login IDs of the users whose role assignment is to be removed.	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/security/v2/role/unassign/user
```

```
{
      "rolename": "Service Administrator",
    "users": [
        {
            "userlogin": "jdoe"
                },
```

```
                {
                  "userlogin": "chris"
                }
        ]
}
```

Response

Supported Media Types: `application/json`

Table 12-25 Parameters

Name	Description
`links`	Detailed information about the link and HTTP call type
`status`	Identifies the status of the operation • 0 - Operation Success • 1 - Operation Failed
`error`	Detailed information about the error
`details`	Detailed status of the operation performed. Total number of records processed, succeeded, and failed and reason for why it failed.

Example of Response Body

The following examples show the contents of the response body in JSON format:

Example 1: REST API Completes without Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/role/unassign/user",
            "action": "PUT"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 3,
        "succeeded": 3,
        "failed": 0,
        "faileditems": null
    }
}
```

Example 2: REST API Completes with Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
```

```
security/v2/role/unassign/user",
            "action": "PUT"
    },
    "status": 1,
    "error": {
        "errorcode": "EPMCSS-21008",
        "errormessage": "Failed to unassign role. Invalid role name
<rolename>. Please provide a valid role name."
    },
    "details": null
}
```

Example 3: REST API Completes with Partial Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
role/unassign/user",
            "action": "PUT"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 5,
        "succeeded": 3,
        "failed": 2,
        "faileditems":
        [
            {
                "userlogin": "jdoe",
                "errorcode": "EPMCSS-21010",
                "errormessage": "Failed to unassign role. User jdoe does not
exist. Provide a valid userlogin."
            },
            {
                "userlogin": "chris",
                "errorcode": "EPMCSS-21010",
                "errormessage": "Failed to unassign role. User chris does
not exist. Provide a valid userlogin."
            }
        ]
    }
}
```

Sample cURL Command Basic Auth

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/json' -d '{"rolename":"<ROLENAME>","users":
[{"userlogin":"<USERLOGIN>"},{"userlogin":"<USERLOGIN>"}]}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v2/role/unassign/user'
```

Sample cURL Command OAuth 2.0

```
curl -X PUT --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/json' -d '{"rolename":"<ROLENAME>","users":
[{"userlogin":"<USERLOGIN>"},{"userlogin":"<USERLOGIN>"}]}'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v2/role/unassign/
user'
```

Add Users to a Group (v1)

Adds a batch of users to an existing group in Access Control using an ANSI or UTF-8 encoded CSV file that was uploaded to the environment. Use the Upload REST API to upload the file. The file should be deleted after the API executes. The file format is as follows:

```
User Login
<user name>
<email>
```

> **Note:**
>
> A user is added to the group only if both these conditions are met:
>
> - User login IDs included in the file exist in the identity domain that services the environment
> - The user is assigned to a pre-defined role in the identity domain

This API should be run only by a service administrator in the identity domain where users are to be added to the group.

The API is asynchronous and returns the Job ID. Use the job status URI to determine whether the assignment of users to the group is complete. The presence of status -1 in the response indicates that the addition of users to a group is in progress. Any non-zero status except -1 indicates failure of adding users. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

Required Roles

Service Administrator or Access Control Manager

Table 12-26 Tasks for Add Users to Group

Task	Request	REST Resource
Add users to group	PUT	`/interop/rest/security/<api_version>/groups`
Add users to group status	GET	`/interop/rest/security/<api_version>/jobs/<jobId>`

REST Resource

PUT `/interop/rest/security/<api_version>/groups`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-27 Parameters

Name	Description	Type	Required	Default
api_version	Specific API version	Path	Yes	None
`jobtype`	The string should have the value `ADD_USERS_TO_GROUP`. This value denotes that the users are being added to the group.	Form	Yes	None
`filename`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing the users to add, such as `addUsersToGroup.csv`. The file must have been uploaded already using the Upload REST API.	Form	Yes	None
`groupname`	The name of group to which the users must be added. This group must be a pre-existing group.	Form	Yes	None

Response

Supported Media Types: `application/json`

Table 12-28 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource

Table 12-28 (Cont.) Parameters

Name	Description
links	Details of the first URL to be requested to get the job details; rel is "Job Details"

Examples of Response Body in JSON format.

Example 1, when job is in progress

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/groups",
      "data": {
        "jobType": "ADD_USERS_TO_GROUP",
        "filename": "<fileName>",
        "groupName": "<groupName>",
      },
      "action": "GET"
    },
    {
      "rel": "Job Status",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobId>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": null,
  "status": -1,
  "items": null
}
```

Example 2, when job completes with errors:

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobID>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Failed to add users to group. Input file <fileName> is
not found. Specify a valid file name.",
```

```
  "status": 1,
  "items": null
}
```

Example 3, when job completes without errors:

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/jobs/<jobId>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Processed - 3, Succeeded - 2, Failed - 1.",
  "status": 0,
  "items": [
    {
                "UserName":"<USERNAME>","Error_Details": "User <USERNAME> is
not found. Verify that the user exists."
    }
   ]
}
```

Example 12-7 Java Sample Code

Prerequisites: json.jar

Common Functions: See: CSS Common Helper Functions for Java

```
public void addUsersToGroup(String fileName, String groupName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "ADD_USERS_TO_GROUP");
            reqParams.put("groupname", groupName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
```

```
            e.printStackTrace();
        }
    }
```

Example 12-8 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL

```
funcAddUsersToGroup() {
    url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
    params="filename=$1&jobtype=ADD_USERS_TO_GROUP&groupname=$2"
    header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
    cssRESTAPI="AddUsersToGroup"
    statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
    echo $statusMessage
}
Example 8-15 Groovy Sample Code
Common Functions: See CSS Common Helper Functions for Groovy.

def addUsersToGroup(fileName, groupName) {

    String scenario = "Adding users in " + fileName + " to group " +
groupName;
    String params = "jobtype=ADD_USERS_TO_GROUP&filename="+ fileName
+"&groupname="+ groupName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Example 12-9 Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def addUsersToGroup(fileName, groupName) {

    String scenario = "Adding users in " + fileName + " to group " +
groupName;
    String params = "jobtype=ADD_USERS_TO_GROUP&filename="+ fileName
```

```
+"&groupname="+ groupName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Add Users to a Group (v2)

The Add Users to a Group (v2) REST API adds a batch of users to an existing group provided in the REST API payload.

> **Note:**
>
> A user is added to the group only if both these conditions are met:
>
> - User login IDs provided in payload should exist in the identity domain that services the environment
> - The user is assigned to a pre-defined role in the identity domain

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use.

The API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates failure of adding users to group. With this API, you can see which records failed and the reason why they failed, in addition to how many records passed and failed.

This REST API is version v2.

Required Roles

Service Administrator or Access Control Manager

Table 12-29 Tasks for Add Users to Group

Task	Request	REST Resource
Add users to group	PUT	`/interop/rest/security/v2/groups/adduserstogroup`

REST Resource

PUT `/interop/rest/security/v2/groups/adduserstogroup`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the PUT request parameters.

Table 12-30 Parameters

Name	Description	Type	Required	Default
`groupname`	The name of the group to which the users must be added. This group must be a pre-existing group.	Payload	Yes	None
`users`	List of user login IDs of the users to add to the group.	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/ interop/rest/
security/v2/groups/adduserstogroup
```

```
{
      "groupname": "G1",
    "users":     [
                {
            "userlogin": "jdoe"
                },
                {
                    "userlogin": "chris"
                }
        ]
}
```

Response

Supported Media Types: `application/json`

Table 12-31 Parameters

Name	Description
`links`	Detailed information about the link and HTTP call type
`status`	Identifies the status of the operation • 0 - Operation Success • 1 - Operation Failed
`error`	Detailed information about the error
`details`	Detailed status of the operation performed. Total number of records processed, succeeded, and failed and reason for why it failed.

Example of Response Body

The following examples show the contents of the response body in JSON format:

Example 1: REST API Completes without Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
groups/adduserstogroup",
            "action": "PUT"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 3,
        "succeeded": 3,
        "failed": 0,
        "faileditems": null
    }
}
```

Example 2: REST API Completes with Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
groups/adduserstogroup",
            "action": "PUT"
    },
    "status": 1,
    "error": {
        "errorcode": "EPMCSS-21021",
        "errormessage": "Failed to add users to group. Group <groupname>
```

```
does not exist. Provide a valid groupname."
    },
    "details": null
}
```

Example 3: REST API Completes with Partial Errors

```
"links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/groups/adduserstogroup",
            "action": "PUT"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 5,
        "succeeded": 3,
        "failed": 2,
        "faileditems":
        [
            {
                "userlogin": "jdoe",
                "errorcode": "EPMCSS-21031",
                "errormessage": "Failed to add user to group. User
jdoe does not exist. Provide a valid userlogin."
            },
            {
                "userlogin": "chris",
                "errorcode": "EPMCSS-21031",
                "errormessage": "Failed to add user to group. User
chris does not exist. Provide a valid userlogin."
            }
        ]
    }
}
```

Sample cURL command

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H
'Content-Type: application/json' -d
'{"groupname":"G1","users":[{"userlogin":"jdoe"},
{"userlogin":"chris"}]}'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/groups/
adduserstogroup'
```

Remove Users from a Group (v1)

Removes users from a group listed in an ANSI or UTF-8 encoded CSV file from a group maintained in Access Control. You can use the Upload REST API to upload the file to the environment. The file format is as follows:

```
User Login
jdoe
john.doe@example.com
```

> **Note:**
>
> A user is removed from a group only if both of these conditions are met:
>
> - User logins included in the file exist in the identity domain that services the environment
> - The user is assigned to a pre-defined role in the identity domain

This API can be run only by a service administrator in the identity domain from which users are to be removed.

The presence of status -1 in the response indicates that the removal of users is in progress. Use the job status URI to determine whether the removal of users is complete. Any non-zero status except -1 indicates failure of removing users. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

This API is version v1.

Required Roles

Service Administrator or Access Control Manager

Table 12-32 Tasks for Remove Users from Group

Task	Request	REST Resource
Remove users from group	PUT	`/interop/rest/security/<api_version>/groups`
Remove users from group status	GET	`/interop/rest/security/<api_version>/jobs/<jobId>`

REST Resource

PUT `/interop/rest/security/<api_version>/groups`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-33 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`jobtype`	The string should have the value `REMOVE_USERS_FROM_GROUP`. This value denotes that the users are being removed from the group.	Form	Yes	None
`filename`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing information on the users to be removed, for example, `removeUsersFromGroup.csv`. The file must have been uploaded already using the Upload REST API.	Form	Yes	None
`groupname`	The name of group from which the users must be removed. This group must be a pre-existing group.	Form	Yes	None

Response

Supported Media Types: `application/json`

Table 12-34 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`links`	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body in JSON format

Example 1: Response when the job is in progress

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/groups",
      "data": {
        "jobType": "REST_REMOVE_USERS_FROM_GROUP",
        "filename": "<filename>"
        "groupName": "<groupName>"
      },
      "action": "PUT"
    },
    {
      "rel": "Job Status",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/jobs/<jobID>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": null,
  "status": -1,
  "items": null
}
```

Example 2: Response when the job completes with errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>..oraclecloud.com/interop/rest/security/
<api_version>/jobs/<jobId>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Failed to remove users. Input file <filename> is not found.
Specify a valid file name.",
  "status": 1,
  "items": null
}
```

Example 3: Response when the job completes with no errors

```
{
  "links": [
    {
```

```
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>..oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobId>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Processed - 3, Succeeded - 2, Failed - 1.",
  "status": 0,
  "items": [
    {

"UserName":"<USERNAME>","Error_Details": "User <USERNAME> is not
found. Verify that the user exists."
    }
  ]
 }
```

Example 12-10 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
public void removeUsersFromGroup(String roleName) {
        try {
                        String url = this.serverUrl + "/interop/rest/
security/" + apiVersion + "/groups";
                        Map<String, String> reqHeaders = new
HashMap<String, String>();
                        reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                                                        .printBase64Bin
ary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

                        Map<String, String> reqParams = new
HashMap<String, String>();
                        reqParams.put("filename",fileName);

reqParams.put("jobtype","REMOVE_USERS_FROM_GROUP);
                        reqParams.put("groupname","groupName);


                        Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                                                        "PUT");
                        String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult);
                        System.out.println(jobStatus);
        } catch (Exception e) {
                        e.printStackTrace();
        }
}
```

Example 12-11 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL.

```
funcRemoveUsersFromGroup() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1&jobtype=REMOVE_USERS_FROM_GROUP&groupname=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="RemoveUsersFromGroup"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def removeUsersFromGroup(fileName, groupName) {

    String scenario = "Removing users in " + fileName + " from group " +
groupName;
    String params = "jobtype=REMOVE_USERS_FROM_GROUP&filename="+ fileName
+"&groupname="+ groupName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Remove Users from a Group (v2)

The Remove Users from a Group (v2) REST API removes a batch of users from an existing group provided in the REST API payload.

> **Note:**
>
> A user is removed from a group only if both of these conditions are met:
>
> - User login IDs included in the request payload should exist in the identity domain that services the environment
> - The user is assigned to a pre-defined role in the identity domain

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use.

The API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates failure of removing users from group. With this API, you can see which records failed and the reason why they failed, in addition to how many records passed and failed.

This API is version v2.

Required Roles

Service Administrator or Access Control Manager

Table 12-35 Tasks for Remove Users from Group

Task	Request	REST Resource
Remove users from group	PUT	`/interop/rest/security/v2/groups/removeusersfromgroup`

REST Resource

PUT `/interop/rest/security/v2/groups/removeusersfromgroup`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-36 Parameters

Name	Description	Type	Required	Default
groupname	The name of group from which the users must be removed. This group must be a pre-existing group.	Payload	Yes	None
users	List of userlogin IDs of the users to be removed from group.	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/security/v2/groups/removeusersfromgroup
```

```
{
      "groupname": "G1",
    "users":     [
                {
            "userlogin": "jdoe"
                },
                {
                    "userlogin": "chris"
                }
        ]
}
```

Response

Supported Media Types: `application/json`

Table 12-37 Parameters

Name	Description
links	Detailed information about the link and HTTP call type
status	Identifies the status of the operation • 0: Operation Success • 1: Operation Failed
error	Detailed information about the error
details	Detailed status of the operation performed. Total number of records processed, succeeded, and failed and reason for why it failed.

Example of Response Body

The following examples show the contents of the response body in JSON format:

Example 1: REST API Completes without Errors

```
{
    "links": {
```

```
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/groups/removeusersfromgroup",
            "action": "PUT"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 3,
        "succeeded": 3,
        "failed": 0,
        "faileditems": null
    }
}
```

Example 2: REST API Completes with Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/groups/removeusersfromgroup",
            "action": "PUT"
    },
    "status": 1,
    "error": {
        "errorcode": "EPMCSS-21022",
        "errormessage": "Failed to remove users from group. Group
<groupname> does not exist. Provide a valid groupname."
    },
    "details": null
}
```

Example 3: REST API Completes with Partial Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/groups/removeusersfromgroup",
            "action": "PUT"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 5,
        "succeeded": 3,
        "failed": 2,
        "faileditems":
        [
            {
                "userlogin": "jdoe",
                "errorcode": "EPMCSS-21032",
                "errormessage": "Failed to remove user from group.
```

```
User jdoe does not exist. Provide a valid userlogin."
            },
            {
                "userlogin": "chris",
                "errorcode": "EPMCSS-21032",
                "errormessage": "Failed to remove user from group. User
chris does not exist. Provide a valid userlogin."
            }
        ]
    }
}
```

Sample cURL command

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt -
H
'Content-Type: application/json' -d
'{"groupname":"G1","users":[{"userlogin":"jdoe"},{"userlogin":"chris"}]}'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
groups/
removeusersfromgroup'
```

Update Users

Modifies attributes such as email, first name, and last name of Oracle Enterprise Performance Management Cloud users in an identity domain using the new values identified in an ANSI or UTF-8 encoded comma-separated value (CSV) file that was uploaded to the environment. Before using this API, use the Upload REST API to upload the file. Use double quotation marks to enclose fields that contain space charaters in the CSV file. The file should be deleted after the API executes. The file format is as follows:

```
Firt Name, Last Name,Email, User Login
Jane,Doe,<emailAddress>,jdoe
John,Doe,<emailAddress>,<emailAddress>
```

This API should be run only by Service Administrators who are also assigned to the Identity Domain Administrator role in the identity domain in which users are to be updated. The CSV file should not include the account of the user who executes this command. It updates all properties of the user identified by *User Login*. Because user accounts are common to all service environments that an Identity Domain Administrator supports, updating an account for one environment updates it for all environments that share the Identity Domain.

With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

The API is asynchronous and returns the Job ID. The presence of status -1 in the response indicates that the updating of users is in progress. Use the job status URI to determine whether the process is complete. Any non-zero status except -1 indicates failure.

This REST API is version v1.

Required Roles

Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

Table 12-38 Tasks for Updating Users

Task	Request	REST Resource
Update users	PUT	`/interop/rest/security/<api_verion>/users`
Update users status	GET	`/interop/rest/security/<api_version>/jobs/<jobId>`

REST Resource

PUT `/interop/rest/security/<api_verion>/users`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-39 Parameters

Name	Description	Type	Required	Default
api_version	Specific API version	Path	Yes	None
`jobtype`	UPDATE_USERS	Form	Yes	None
`filename`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing the users to update, such as `updateUsers.csv`.	Form	Yes	None

Response

Supported Media Types: `application/json`

Table 12-40 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type

Table 12-40 (Cont.) Parameters

Name	Description
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`links`	Details of the first URL to be requested to get the job details; rel is "Job Details"

Examples of Response Body in JSON format.

Example 1, when job is in progress

```
{
    "links": [
        {
            "rel": "self",
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com /interop/rest/security/
<api_version>/users",
            "data": {
                "jobType": "UPDATE_USERS",
                "filename": "<filename>"
            },
            "action": "UPDATE"
        },
        {
            "rel": "Job Status",
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com /interop/rest/security/
<api_version>/jobs/<jobID>",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null,
    "status": -1,
    "items": null
}
```

Example 2, when job completes with errors:

```
{
"links": [
{
"rel": "self",
"href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/jobs/",
"data": null,
```

```
"action": "GET"
}
],
"details": "Failed to update users. Input file <filename> not found.
Specify a valid file name.",
"status": 1,
"items": null
}
```

Example 3, when job completes without errors:

```
{
"links": [
{
"rel": "self",
"href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/
<api_version>/jobs/",
"data": null,
"action": "GET"
}
],
"details": "Processed - 3, Succeeded - 2, Failed - 1.",
"status": 0,
"items": [
        {
            "UserName": "<username>",
            "Error_Details": " User <USER_NAME> not found. Verify that
the user exists. "
        }
    ]}
```

Example 12-12 Java Sample Code

Prerequisites: json.jar

Common Functions: See: CSS Common Helper Functions for Java

```
    public void updateUsers(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
```

```
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "UPDATE_USERS");

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-13 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL

```
funcUpdateUsers() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1&jobtype=UPDATE_USERS"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="UpdateUsers"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Example 12-14 Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def updateUsers(fileName) {

    String scenario = "Updating users from " + fileName ;
    String params = "jobtype=UPDATE_USERS&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
```

```
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Sample cURL Command Basic Auth

```
curl -X PUT -s -u '<USERNAME>:<PASSWORD>' -H
'Content-Type: application/x-www-form-urlencoded' -d
'jobtype=UPDATE_USERS&filename=<CSV-FILE-NAME>'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users'
```

Sample cURL Command OAuth 2.0

```
curl -X PUT --header "Authorization: Bearer <OAUTH_ACCESS_TOKEN>" -H
'Content-Type: application/x-www-form-urlencoded' -d
'jobtype=UPDATE_USERS&filename=<CSV-FILE-NAME>'
'https://<EPM-CLOUD-BASE-URL>/interop/rest/security/v1/users'
```

Add a User to a Batch of Groups

Adds an existing user to a batch of groups in Access Control using an ANSI or UTF-8 encoded CSV file that was uploaded to the environment. Use the Upload REST API to upload the file. The file should be deleted after the API executes. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed. The file format is as follows:

```
Group Name
GroupA
GroupB
```

The user is added to the groups only if these conditions are met:

- The user must exist in the identity domain that services the environment
- The user must be assigned to a pre-defined role in the identity domain
- The groups provided must exist in Access Control and must not be pre-defined groups

Additionally, the user running this API must be authorized to perform this action. This API should be run only by a service administrator in the environment where the user is to be added to the groups.

The API is asynchronous and returns the Job ID. Use the job status URI to determine whether the assignment of a user to the groups is complete. The presence of status -1 in the response indicates that the addition of a user to groups is in progress. Any non-zero status except -1 indicates failure of adding a user.

This REST API is version v1.

Required Roles

Service Administrator or Access Control Manager

Table 12-41 Tasks for Adding a User to a Batch of Groups

Task	Request	REST Resource
Add a user to groups	PUT	`/interop/rest/security/<api_version>/groups`
Add a user to groups status	GET	`/interop/rest/security/<api_version>/jobs/<jobId>`

REST Resource

PUT `/interop/rest/security/<api_version>/groups`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-42 Parameters

Name	Description	Type	Required	Default
api_version	Specific API version	Path	Yes	None
jobtype	The string should have the value `ADD_USER_TO_GROUPS`. This value denotes that the user is being added to the groups.	Form	Yes	None

`filename`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing the groups to add the user to, such as `addUserToGroups.csv`.
	The file must have been uploaded already using the Upload REST API.
	File format example:
	
	`Group Name`
	`GroupA`
	`GroupB`
		Form	Yes	None

username	The name of the user to add to the provided list of groups. This user must already exist.	Form	Yes	None

Response

Supported Media Types: `application/json`

Table 12-43 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`links`	Details of the first URL to be requested to get the job details; rel is "Job Details"

Examples of Response Body in JSON format.

Example 1, when job is in progress

```
{
    "links": [
        {
            "href": https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/groups,
            "rel": "self",
            "data": {
                "jobType": "ADD_USER_TO_GROUPS",
                "filename": "<filename>",
                "username": "<username>"
            },
            "action": "PUT"
        },
        {
            "href":  https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobId>,
            "rel": "Job Status",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null,
    "status": -1,
    "items": null
}
```

Example 2, when job completes with errors:

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v1/
jobs/<jobID>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Failed to add user to groups. Input file <fileName> is not
found. Specify a valid file name.",
  "status": 1,
  "items": null
}
```

Example 3, when job completes without errors:

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/jobs/<jobId>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Processed - 3, Succeeded - 2, Failed - 1.",
  "status": 0,
  "items": [
    {
                "GroupName":"<GROUPNAME>","Error_Details": "Group
<GROUPNAME> is not found. Verify that the group exists."
    }
  ]
}
```

Example 12-15 Java Sample Code

Prerequisites: json.jar

Common Functions: See: CSS Common Helper Functions for Java

```
public void addUserToGroups(String fileName, String userName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
```

```
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "ADD_USER_TO_GROUPS");
            reqParams.put("username", userName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-16 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL

```
funcAddUserToGroups() {
    url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
    params="filename=$1&jobtype=ADD_USER_TO_GROUPS&username=$2"
    header="Content-Type: application/x-www-form-urlencoded"
    cssRESTAPI="AddUserToGroups"
    statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
    echo $statusMessage
}
```

Example 12-17 Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def addUserToGroups(fileName, userName) {

    String scenario = "Adding users in " + fileName + " to group " +
userName;
    String params = "jobtype=ADD_USER_TO_GROUPS&filename="+ fileName
+"&username="+ userName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
```

```
    response = executeRequest(url, "PUT", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Remove a User from a Batch of Groups

Removes a user from a batch of groups listed in an ANSI or UTF-8 encoded CSV file maintained in Access Control. You can use the Upload REST API to upload the file to the environment. The file format is as follows:

```
Group Name
GroupA
GroupB
```

A user is removed from groups only if these conditions are met:

- The user must exist in the identity domain that services the environment
- The user must be assigned to a pre-defined role in the identity domain
- The groups provided must exist in Access Control and must not be pre-defined groups

Additionally, the user running this API must be authorized to perform this action. This API should be run only by a service administrator in the environment where a user is to be removed from the groups. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

The presence of status -1 in the response indicates that the removal in progress. Use the job status URI to determine whether the removal is complete. Any non-zero status except -1 indicates failure.

This API is version v1.

Required Roles

Service Administrator or Access Control Manager

This REST API is version v1.

Table 12-44 Tasks for Remove a User from a Batch of Groups

Task	Request	REST Resource
Remove a user from groups	PUT	/interop/rest/security/<*api_version*>/groups
Remove a user from groups status	GET	/interop/rest/security/<*api_version*>/jobs/<*jobId*>

REST Resource

PUT `/interop/rest/security/<api_version>/groups`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-45 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`jobtype`	The string should have the value `REMOVE_USER_FROM_GROUPS`. This value denotes that the user is being removed from the groups.	Form	Yes	None

`filename`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing information on the groups from which the user is to be removed, for example, `removeUserFromGroups.csv`.
	The file must have been uploaded already using the Upload REST API.
	File format:
	`Group Name`
	`GroupA`
	`GroupB`
		Form	Yes	None

`username`	The name of the user to remove from the provided list of groups. This user must already exist.	Form	Yes	None

Response

Supported Media Types: `application/json`

Table 12-46 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link

Table 12-46 (Cont.) Parameters

Name	Description
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`links`	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body in JSON format

Example 1: Response when the job is in progress

```
{
    "links": [
        {
            "href": https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/groups,
            "rel": "self",
            "data": {
                "jobType": "REMOVE_USER_FROM_GROUPS",
                "filename": "<filename>",
                "username": "<username>"
            },
            "action": "PUT"
        },
        {
            "href":  https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/jobs/<jobId>,
            "rel": "Job Status",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null,
    "status": -1,
    "items": null
}
```

Example 2: Response when the job completes with errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>..oraclecloud.com/interop/rest/security/
```

```
<api_version>/jobs/<jobId>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Failed to remove user from groups. File <filename> is
not found. Specify a valid file name.",
  "status": 1,
  "items": null
}
```

Example 3: Response when the job completes with no errors

```
{
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>..oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobId>",
      "data": null,
      "action": "GET"
    }
  ],
  "details": "Processed - 3, Succeeded - 1, Failed - 2.",
  "status": 0,
  "items": [
    {
                "GroupName":"<GROUPNAME>","Error_Details": "Group
<GROUPNAME> is not found. Verify that the group exists."
    },

{                "GroupName":"<GROUPNAME>","Error_Details": "Group
<GROUPNAME> is not found. Verify that the group exists."
    }
  ]
}
```

Example 12-18 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
public void removeUserFromGroups(String fileName, String userName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));
```

```
            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "REMOVE_USER_FROM_GROUPS");
            reqParams.put("username", userName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-19 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL.

```
funcRemoveUserFromGroups() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1&jobtype=REMOVE_USER_FROM_GROUPS&username=$2"
        header="Content-Type: application/x-www-form-urlencoded"
        cssRESTAPI="RemoveUserFromGroups"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def removeUserFromGroups(fileName, userName) {

    String scenario = "Removing users in " + fileName + " from group " +
userName;
    String params = "jobtype=REMOVE_USER_FROM_GROUPS&filename="+ fileName
+"&username="+ userName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-form-
urlencoded");
    if (response != null) {
```

```
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Add Groups (v1)

Adds groups in Access Control using an ANSI or UTF-8 encoded CSV file that was uploaded to the environment. Use the Upload REST API to upload the file. The file should be deleted after the API executes. The file format is as follows:

```
Group Name,Description
GroupA,GroupADescription
GroupB,GroupBDescription
```

The user running this API must be authorized to perform this action. This API should be run only by a service administrator in the environment where groups are to be added. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

The API is asynchronous and returns the Job ID. Use the job status URI to determine whether adding groups is complete. The presence of status -1 in the response indicates that the addition is in progress. Any non-zero status except -1 indicates failure of adding a group.

This REST API is version v1.

Required Roles

Service Administrator or Access Control Manager

Table 12-47 Tasks for Adding a Batch of Groups

Task	Request	REST Resource
Create groups	POST	`/interop/rest/security/<api_version>/groups`
Create groups status	GET	`/interop/rest/security/<api_version>/jobs/<jobId>`

REST Resource

POST `/interop/rest/security/<api_version>/groups`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-48 Parameters

Name	Description	Type	Required	Default
api_version	Specific API version	Path	Yes	None

`filename`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing the groups to add, such as `addGroups.csv`.
	The file must have been uploaded already using the Upload REST API.
	File format example:
	
	`Group Name,Description`
	`GroupA,GroupADescription`
	`GroupB,GroupBDescription`
		Form	Yes	None

Response

Supported Media Types: `application/json`

Table 12-49 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`links`	Details of the first URL to be requested to get the job details; rel is "Job Details"

Examples of Response Body in JSON format.

Example 1, when job is in progress

```
{
    "links": [
        {
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/groups",
            "rel": "self",
            "data": {
                "jobType": "ADD_GROUPS",
                "filename": "<filename>"
            },
            "action": "POST"
        },
        {
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobId ",
            "rel": "Job Status",
            "data": null,
            "action": "GET"
        }
    ],
    "status": -1,
    "details": null,
    "items": null
}
```

Example 2, when job completes with errors:

```
{
    "links": [
        {
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/groups",
            "rel": "self",
            "data": {
                "jobType": "ADD_GROUPS",
                "filename": ""
            },
            "action": "POST"
        }
    ],
    "status": 1,
    "details": "EPMCSS-20671: Failed to create groups. Invalid or
insufficient parameters specified. Provide all required parameters for
the REST API. ",
    "items": null
}
```

Example 3, when job completes without errors:

```
{
    "links": [
        {
            "data": null,
            "action": "GET",
            "href": " http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com /interop/rest/security/
<api_version>/jobs/<jobId>",
            "rel": "self"
        }
    ],
    "status": 0,
    "details": "Processed - 4, Succeeded - 3, Failed - 1.   ",
    "items": [
    {
                "GroupName":"<GROUPNAME>","Error_Details": "Failed to create
a group with the name <GROUPNAME>. This group already exists in the system.
Provide a different group name."
     }
   ]
}
```

Example 12-20 Java Sample Code

Prerequisites: json.jar

Common Functions: See: CSS Common Helper Functions for Java

```
public void addGroups(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-21 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL

```
funcAddGroups() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="addGroups"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Example 12-22 Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def addGroups(fileName) {

    String scenario = "Creating Groups in " + fileName;
    String params = "filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Add Groups (v2)

The Add Groups (v2) REST API adds groups that are provided in the request payload. These groups can be viewed in Access Control.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use.

The user running this API must be authorized to perform this action. This API should be run only by a Service Administrator in the environment where groups are to be added. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

The API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates failure of adding groups.

This REST API is version v2.

Required Roles

Service Administrator or Access Control Manager

Table 12-50 Tasks for Add Users to Group

Task	Request	REST Resource
Add groups	POST	`/interop/rest/security/v2/groups/add`

REST Resource

POST `/interop/rest/security/v2/groups/add`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the POST request parameters.

Table 12-51 Parameters

Name	Description	Type	Required	Default
`groups`	List of groups to add.	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/security/v2/groups/add
```

```
{
          "groups":
             [
```

```
            {
                 "groupname": "GroupA",
                 "description": "GroupADescription"

         },
         {
                  "groupname": "GroupB",
                  "description": "GroupBDescription"
         }
         ]
}
```

Response

Supported Media Types: `application/json`

Table 12-52 Parameters

Name	Description
`links`	Detailed information about the link and HTTP call type
`status`	Identifies the status of the operation • 0 - Operation succeeded • 1 - Operation failed
`error`	Detailed information about the error
`details`	Detailed status of the operation performed. Total number of records processed, succeeded, and failed, and the reason for why they failed.

Example of Response Body

The following examples show the contents of the response body in JSON format:

Example 1: REST API Completes without Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/groups/add",
            "action": "POST"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 2,
        "succeeded": 2,
        "failed": 0,
        "faileditems": null
    }
}
```

Example 2: REST API Completes with Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
groups/add",
            "action": "POST"
    },
    "status": 1,
    "error": {
        "errorcode": "EPMCSS-21119",
        "errormessage": "Failed to add groups. Invalid or insufficient
parameters specified. Provide all required parameters for the REST API."
    },
    "details": null
}
```

Example 3: REST API Completes with Partial Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
groups/add",
            "action": "POST"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 5,
        "succeeded": 3,
        "failed": 2,
        "faileditems":
        [
        {
                        "groupname": "GroupA",
                        "errorcode": "EPMCSS-21140",
                        "errormessage": "Failed to add group. Group already
exists in System. Provide different group name."
                },
                 {
                        "groupname": "GroupB",
                        "errorcode": "EPMCSS-21140",
                        "errormessage": "Failed to add group. Group already
exists in System. Provide different group name."
                 }
        ]
    }
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D
respHeader.txt -H
'Content-Type: application/json' -d
'{"groups":[{"groupname":"GroupA","description":"GroupADescription"},
{"groupname":"GroupB","description":"GroupBDescription"}]}' 'https://
<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/groups/add'
```

Remove Groups (v1)

Removes groups listed in an ANSI or UTF-8 encoded CSV file maintained in Access Control. You can use the Upload REST API to upload the file to the environment. The file format is as follows:

```
Group Name
GroupA
GroupB
```

The user running this API must be authorized to perform this action. This API should be run only by a service administrator in the environment where a group is to be removed.

The presence of status -1 in the response indicates that the removal in progress. Use the job status URI to determine whether the removal is complete. Any non-zero status except -1 indicates failure. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

This API is version v1.

Required Roles

Service Administrator or Access Control Manager

Table 12-53 Tasks for Remove Groups

Task	Request	REST Resource
Remove groups	DELETE	`/interop/rest/security/<api_version>/groups`
Remove groups status	GET	`/interop/rest/security/<api_version>/jobs/<jobId>`

REST Resource

DELETE `/interop/rest/security/<api_version>/groups`

Supported Media Types: `application/x-www-form-urlencoded`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-54 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None

`filename`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing information on the groups to be removed, for example, `removeGroups.csv`.
	The file must have been uploaded already using the Upload REST API.
	
	`Group Name`
	`GroupA`
	`GroupB`
		Query	Yes	None

Response

Supported Media Types: `application/json`

Table 12-55 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	Parameters as key value pairs passed in the request
`items`	Details about the resource
`links`	Details of the first URL to be requested to get the job details; rel is "Job Details"

Example of Response Body in JSON format

Example 1: Response when the job is in progress

```
{
    "status": -1,
    "items": null,
    "links": [
        {
            "href": " http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/groups?filename=<filename>",
            "rel": "self",
            "data": {
                "jobType": "REMOVE_GROUPS",
                "filename": "<filename>"
            },
            "action": "DELETE"
        },
        {
            "href": " http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobId>",
            "rel": "Job Status",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null
}
```

Example 2: Response when the job completes with errors

```
{
    "links": [
        {
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/groups",
            "rel": "self",
            "data": {
                "jobType": "REMOVE_GROUPS",
                "filename": ""
            },
            "action": "DELETE"
        }
    ],
    "status": 1,
    "details": "EPMCSS-20673: Failed to delete groups. Invalid or
insufficient parameters specified. Provide all required parameters for
the REST API. ",
    "items": null
}
```

Example 3: Response when the job completes with no errors

```
{
    "links": [
        {
            "data": null,
            "action": "GET",
            "href": " http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com /interop/rest/security/
<api_version>/jobs/<jobId>",
            "rel": "self"
        }
    ],
    "status": 0,
    "details": "Processed - 3, Succeeded - 2, Failed - 1.   ",
    "items":  [
    {
                "GroupName":"<GROUPNAME>","Error_Details": "Group
<GROUPNAME> is not found. Verify that the group exists."
     }
   ]
}
```

Example 12-23 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
public void removeGroups(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "DELETE");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-24 Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL.

```
FuncRemoveGroups() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="removeGroups"
        statusMessage=$(funcCSSRESTHelper "DELETE" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def removeGroups(fileName) {

    String scenario = "Deleting Groups in " + fileName;
    String params = null;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups?filename=" + fileName);
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "DELETE", null, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Remove Groups (v2)

The Remove Groups (v2) REST API remove groups that are provided into request payload. These groups are maintained in Access Control.

This topic describes the simplified v2 version of this REST API. This version contains all parameters in the payload and does not require URL encoding while calling the REST APIs. This makes the v2 API easier to use.

The user running this API must be authorized to perform this action. This API should be run only by a Service Administrator in the environment where groups are to be removed. With this API, you can see which records failed and the reason why they failed in addition to how many records passed and failed.

The API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates failure of adding groups.

This REST API is version v2.

Required Roles

Service Administrator or Access Control Manager

Table 12-56 Tasks for Remove Groups

Task	Request	REST Resource
Remove groups	POST	`/interop/rest/security/v2/groups/remove`

REST Resource

POST `/interop/rest/security/v2/groups/remove`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the POST request parameters.

Table 12-57 Parameters

Name	Description	Type	Required	Default
`groups`	List of groups to remove.	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/security/v2/groups/remove
```

```
{
            "groups":
               [
               {
                 "groupname": "GroupA"
             },
             {
```

```
                "groupname": "GroupB"
            }
            ]
}
```

Response

Supported Media Types: `application/json`

Table 12-58 Parameters

Name	Description
`links`	Detailed information about the link and HTTP call type
`status`	Identifies the status of the operation • 0 - Operation succeeded • 1 - Operation failed
`error`	Detailed information about the error
`details`	Detailed status of the operation performed. Total number of records processed, succeeded, and failed, and the reason for why they failed.

Example of Response Body

The following examples show the contents of the response body in JSON format:

Example 1: REST API Completes without Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/groups/remove",
            "action": "POST"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 2,
        "succeeded": 2,
        "failed": 0,
        "faileditems": null
    }
}
```

Example 2: REST API Completes with Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/groups/remove",
            "action": "POST"
    },
```

```
    "status": 1,
    "error": {
                "errorcode": "EPMCSS-21120",
                "errormessage": "Failed to remove groups. Invalid or
insufficient parameters specified. Provide all required parameters for the
REST API."
            },
    "details": null
}
```

Example 3: REST API Completes with Partial Errors

```
{
    "links": {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
groups/remove",
            "action": "POST"
    },
    "status": 0,
    "error": null,
    "details": {
        "processed": 5,
        "succeeded": 3,
        "failed": 2,
        "faileditems":
        [
        {
                        "groupname": "GroupA",
                        "errorcode": "EPMCSS-21125",
                        "errormessage": "Failed to remove group. Group
GroupA does not exist. Provide a valid groupname."
                },
                {
                       "groupname": "GroupB",
                        "errorcode": "EPMCSS-21125",
                        "errormessage": "Failed to remove group. Group
GroupB does not exist. Provide a valid groupname."
                }
        ]
    }
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H
'Content-Type: application/json' -d
'{"groups":[{"groupname":"GroupA"},{"groupname":"GroupB"}]}' 'https://
<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
groups/remove'
```

User Group Report (v1)

Generates a User Group Report of users in the system and writes the report to the filename provided. This report lists the direct or indirect membership of users assigned to the group. It can be downloaded using the Download API.

The report indicates whether the user assignment to group is direct (as member of a group) or indirect (as member of a group that is a child of a nested group). The report identifies the user's login name, first name, last name, email address, assigned group, and type of assignment in the following format. It is identical to the CSV version of the report created from the User Group Report tab in Access Control.

For example, assume that user jdoe is a member of group Test1, which is a child of nested group Test2. In this scenario, the report will display the following information for jdoe:

```
User, First Name, Last Name, Email, Direct, Group

jdoe, John, Doe, jdoe@example.com, Yes, test1

jdoe, John, Doe, jdoe@example.com, No, test2
```

This is an asynchronous job and returns the Job ID.

This API is version v1.

Required Roles

Service Administrator or Access Control Manager

Table 12-59 Tasks for User Group Report

Task	Request	REST Resource
User Group Report	POST	`/interop/rest/security/<api_version>/usergroupreport`
User Group Report Status	GET	`/interop/rest/security/<api_version>/jobs/<jobId>`

REST Resource

POST `/interop/rest/security/<api_version>/usergroupreport`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/x-www-form-urlencoded`

The following table summarizes the request parameters.

Table 12-60 Parameters

Name	Description	Type	Required	Default
`api_version`	The specific API version, v1	Path	Yes	None
`filename`	The name of the file where the report is to be populated, such as `userGroupReport.csv`.	Form	Yes	None

Response

Supported Media Types: `application/json`

Table 12-61 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

Response 1 example when job is in progress:

```
{
    "details": null,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/usergroupreport",
```

```
            "rel": "self",
            "data": {
                "jobType": "GENERATE_USER_GROUP_REPORT",
                "filename": "<filename>"
            },
            "action": "POST"
        },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobId>",
            "rel": "Job Status",
            "data": null,
            "action": "GET"
        }
    ],
    "status": -1,
    "items": null
}
```

Response example 2 when the job completes with errors:

```
{
    "details": "Failed to generate User Group Report. File <filename>
already exists. Please provide different file name. ",
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobId>",
            "rel": "self",
            "data": null,
            "action": "GET"
        }
    ],
    "status": 1,
    "items": null
}
```

Response example 3 when the job completes without errors

```
{
    "details": null,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobid>",
            "rel": "self",
            "data": null,
            "action": "GET"
        }
    ],
    "status": 0,
```

```
    "items": null
}
```

Sample Code

Example 12-25 Example Java Sample Code

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN
//
public void generateUserGroupReport(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/usergroupreport";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
// END
//
```

Example 12-26 Example Shell Script Sample Code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcGenerateUserGroupReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/usergroupreport"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateUserGroupReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Example 12-27 Example Groovy Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def generateUserGroupReport(fileName) {
    String scenario = "Generating User Group Report in " + fileName;
    String params = "jobtype=GENERATE_USER_GROUP_REPORT&filename="+
fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/usergroupreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

User Group Report (v2)

Generates a User Group Report of users in the system. This report lists the direct or indirect membership of users assigned to the different EPM groups.

The report indicates whether the user assignment to an EPM group is direct (as member of an EPM group) or indirect (as member of an EPM group that is a child of a nested EPM group). The report identifies the user's login name, first name, last name, email address, assigned EPM group, and type of assignment.

The API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates failure of getting available roles.

This API is version v2.

Required Roles

Service Administrator or Access Control Manager

Table 12-62 Tasks for User Group Report

Task	Request	REST Resource
User Group Report	GET	`/interop/rest/security/v2/report/usergroupreport`

REST Resource

GET `/interop/rest/security/v2/report/usergroupreport`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Response

Supported Media Types: `application/json`

Table 12-63 Parameters

Parameters	Description
`links`	Detailed information about the link
`status`	Status of the operation • 0: Operation succeeded • 1: Operation failed
`error`	Detailed information about the error
`details`	Records matching the request

Examples of Response Body

The following show examples of the response body in JSON format.

Example 1: REST API Completes without Errors

```
{
  "links": {
    "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
report/usergroupreport",
    "action": "GET"
  },
  "status": 0,
  "error": null,
```

```
  "details": [
{
      "userlogin": "Jade",
      "firstname": "Jade",
      "lastname": "Clark",
      "email": "jade.clark@discard.oracle.com",
      "direct": "Yes",
      "group": "Interactive User"
    },
    {
      "userlogin": "Jade",
      "firstname": "Jade",
      "lastname": "Clark",
      "email": "jade.clark@discard.oracle.com",
      "direct": "No",
      "group": "Strategic Planner"
    },
    {
      "userlogin": "Jeff",
      "firstname": "Jeff",
      "lastname": "Clark",
      "email": "jeff.clark@discard.oracle.com",
      "direct": "Yes",
      "group": "Analyst"
    },
    {
      "userlogin": "Jeff",
      "firstname": "Jeff",
      "lastname": "Clark",
      "email": "jeff.clark@discard.oracle.com",
      "direct": "No",
      "group": "Strategic Planner"
    }  ]
}
```


Example 2: REST API Completes with Errors


```
{
  "links": {
    "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/report/usergroupreport",
    "action": "GET"
  },
  "status": 1,
  "error": {
    "errorcode": "EPMCSS-21192",
    "errormessage": "Failed to generate User Group Report.
Authorization failed. Please provide valid authorized user."
  },
  "details": null
}
```

Sample cURL Commands

Sample cURL command using Basic Auth

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -H 'Content-Type: application/
json'
'https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com
/interop/rest/security/v2/report/usergroupreport'
```

Sample cURL command using oAuth

```
curl --location --request GET 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
report/usergroupreport'
--header "Authorization: Bearer <OAUTH_TOKEN>"
```

User Access Report (v1)

Generates an access report of users in the system and writes the report to the filename provided. This report can then be downloaded using the download command.

This is an asynchronous job and uses the job status URI to determine if the operation is complete.

This API is version v1.

Required Roles

Service Administrator

Table 12-64 User Access Report

Task	Request	REST Resource
User Access Report	POST	`/interop/rest/{api_version}/reports?q={type:provisionreport,fileName:provreport.csv,format:simplified,usertype:serviceusers}`

REST Resource

POST `/interop/rest/{api_version}/reports?q={type:provisionreport,fileName:provreport.csv,format:simplified,usertype,serviceusers}`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-65 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`fileName`	File where report is to be populated	Query	Yes	None
`type`	Type of report being generated: `provisionreport`	Query	Yes	None
`format`	The format of the `csv` file, `classic` or `simplified`	Query	No	`classic`
`usertype`	Wheter to generate the report only for Identity Domain Administrators, `IDAdmins` or `ServiceUsers`	Query	No	`ServiceUsers`

Response

Supported Media Types: `application/json`

Table 12-66 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

Response 1 example when job is in progress:

```
{
   "links": [
      {
         "rel": "self",
         "href": "https://<SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
{api_version}/reports?
q={type=provisionreport,fileName=provreport.csv,format=simplified,usertype=se
rviceusers}",
         "data": null,
         "action": "POST"
      },
      {
         "rel": "Job Status",
         "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/reports/
3180399797144693",
         "data": null,
         "action": "GET"
      }
   ],
   "status": -1,
   "details": null
}
```

Sample Code

Example 12-28 Java Sample – ProvisionReport.java

Prerequisites: json.jar

Common Functions: See Common Helper Functions for Java

```
//
// BEGIN
//
public void provisionReport (String fileName, String type) throws Exception {
    JSONObject params = new JSONObject();
    params.put("fileName",java.net.URLEncoder.encode(fileName));
    params.put("type",java.net.URLEncoder.encode(type));
    params.put("format","simplified");
    params.put("usertype","usertype","serviceusers"));

    String urlString = String.format("%s/interop/rest/%s/reports?q=%s",
serverUrl, lcmVersion, params.toString());
    String response = executeRequest(urlString, "POST", params.toString(),
"application/x-www-form-urlencoded");
    getJobStatus(fetchPingUrlFromResponse(response, "Job Status"),"GET");
}
//
// END
//
```

Example 12-29 cURL Sample – provisionreport.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcProvisionReport () {
           url=$SERVER_URL/interop/rest/$LCM_VERSION/reports/

           param=$(echo
"q={type:$reporttype,fileName:$fileName,format:$mode,usertype:$usertype
}" | sed -f urlencode.sed)

           url=$url?$param

          funcExecuteRequest "POST" $url $param "application/json"

          output='cat response.txt'
          status='echo $output | jq '.status''

     if [ $status == -1 ]; then
        echo "copying snapshot in progress"
        funcGetStatus "GET"
    else
        error='echo $output | jq '.details''
        echo "Error occured. " $error
    fi
        funcRemoveTempFiles "respHeader.txt" "response.txt"

}
```

Example 12-30 Groovy Sample – provisionreport.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def provisionReport (fileName, type) {
        def url;
                                    JSONObject param = new
JSONObject();
        try {

            param.put("fileName",fileName);
            param.put("type",type);
            param.put("format",mode);
            param.put("usertype",usertype);

            url = new URL(serverUrl + "/interop/rest/" + lcmVersion +
"/reports?q=" + param.toString());
        } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
        }
        response = executeRequest(url, "POST", param.toString(),
"application/x-www-form-urlencoded");

        if (response != null) {
            getJobStatus(fetchPingUrlFromResponse(response, "Job
```

```
Status"),"GET");
        }
}
```

Additional Sample Code

Java Sample

cURL Sample

User Access Report (v2)

The User Access Report (v2) REST API generates an access report of users provisioned in the environment and writes the report to the filename provided. This report can then be downloaded using the download command.
This is an asynchronous job and uses the job status URI to determine if the operation is complete.

This API is version v2.

Required Roles

Service Administrator

Table 12-67 User Access Report

Task	Request	REST Resource
User Access Report	POST	`/interop/rest/v2/reports/useraccess`

REST Resource

POST `/interop/rest/v2/reports/useraccess`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 12-68 Parameters

Name	Description	Type	Required	Default
`fileName`	File where report is to be populated	Payload	Yes	None

Table 12-68 (Cont.) Parameters

Name	Description	Type	Required	Default
format	The format of the csv file, classic or simplified	Payload	No	classic
usertype	Wheter to generate the report only for Identity Domain Administrators, IDAdmins or ServiceUsers	Payload	No	ServiceUsers

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
reports/useraccess
```

```
{
    "fileName": "provisionreport.csv",
    "parameters": {
        "format": "simplified",
        "usertype": "IDAdmins"
    }
}
```

Response

Supported Media Types: application/json

Table 12-69 Parameters

Parameters	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Can be self and/or Job Status. If set to Job Status, you can use the href to get the status of the import operation
data	null

Example of Response Body

The following examples show the contents of the response body in JSON format.

```
{
    "details": null,
    "status": -1,
    "links": [
```

```
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/reports/
useraccess",
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
jobs/22747066997747363",
            "action": "GET",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
 -H 'Content-Type: application/json' -d
'{"fileName":"provisionreport.csv","parameters":
{"format":"simplified","usertype":"IDAdmins"}}
' 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/reports/
useraccess'
```

User Audit Report (v1)

Generates a user audit report in the system and writes the report to the filename provided. The output CSV file contains the first character as a Byte Order Mark(BOM) character `\ufeff`. The API writes an encrypted application identifier following the BOM character. This application identifier is written between double quotes. Headers for the CSV file follow the application identifier. The report contains the details regarding the users logged into the system in a given time range.

The generated CSV file is compressed and the output is a ZIP file. The file can be downloaded using the Download REST API.

This is an asynchronous command, so use the job status URI to determine whether the operation is complete.

This API is version v1.

Required Roles

Service Administrator

Table 12-70 User Audit Report

Task	Request	REST Resource
User Audit Report	POST	`/interop/rest/{api_version}/reports?q={type:userauditreport,fileName:useraudit report.csv,since:2017-12-10,until:2018-06-10}`

REST Resource

POST `/interop/rest/{api_version}/reports?q={type:userauditreport,fileName:userauditreport.csv,since:2017-12-10,until:2018 -06-10}`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/x-www-form-urlencoded`

The following table summarizes the request parameters.

Table 12-71 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`fileName`	File where report is to be populated	Query	Yes	None
`since`	Report generation start date	Query	Yes	None
`until`	Report generation end date	Query	Yes	None
`type`	Type of report being generated, `provisionreport` or `userauditreport`	Query	Yes	None

Response

Supported Media Types: `application/json`

Table 12-72 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string

Table 12-72 (Cont.) Parameters

Parameters	Description
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "links": [
      {
         "rel": "self",
         "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.cominterop/rest/{api_version}/
reports?q={type:userauditreport,fileName:useraudit
report.csv,since:2017-12-10,until:2018-06-10}",
         "data": null,
         "action": "POST"
      },
      {
         "rel": "Job Status",
         "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/reports/
3180621025673301",
         "data": null,
         "action": "GET"
      }
   ],
   "status": -1,
   "details": null
}
```

User Audit Report Sample Code

Example 12-31 Java Sample – UserAuditReport.java

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
//
// BEGIN
//
public void userAuditReport (String fileName, String type, String since,
String until) throws Exception {
```

```
    JSONObject params = new JSONObject();
    params.put("fileName",java.net.URLEncoder.encode(fileName));
    params.put("type",java.net.URLEncoder.encode(type));
    params.put("since",java.net.URLEncoder.encode(since));
    params.put("until",java.net.URLEncoder.encode(until));

    String urlString = String.format("%s/interop/rest/%s/reports?
q=%s", serverUrl, lcmVersion, params.toString());
    String response = executeRequest(urlString, "POST",
params.toString(), "application/x-www-form-urlencoded");
    waitForCompletion(fetchPingUrlFromResponse(response, "Job
Status"));}
//
// END
//
```

Example 12-32 cURL Sample – userauditreport.sh

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See Common Helper Functions for cURL

```
funcUserAuditReport () {
     url=$SERVER_URL/interop/rest/$LCM_VERSION/reports/

     param=$(echo
"q={type:$reporttype,fileName:$fileName,since:$since,until:$until}" |
sed -f urlencode.sed)

     url=$url?$param

     funcExecuteRequest "POST" $url $param "application/json"

     output='cat response.txt'
     status='echo $output | jq '.status''
    if [ $status == -1 ]; then
        echo "copying snapshot in progress"
        funcGetStatus "GET"
    else
        error='echo $output | jq '.details''
        echo "Error occured. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 12-33 Groovy Sample – userauditreport.groovy

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Groovy

```
def userAuditReport (fileName, type, since, until) {
        def url;
        JSONObject param = new JSONObject();
        try {
```

```
            param.put("fileName",fileName);
            param.put("type",type);
            param.put("since",since);
            param.put("until",until);

            url = new URL(serverUrl + "/interop/rest/" + lcmVersion + "/
reports?q=" + param.toString());
        } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
        }
        response = executeRequest(url, "POST", param.toString(),
"application/x-www-form-urlencoded");

        if (response != null) {
            waitForCompletion(fetchPingUrlFromResponse(response, "Job
Status"));
        }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

User Audit Report (v2)

The User Audit Report (v2) REST API generates a user audit report in the environment and writes the report to the filename provided. The output CSV file contains the first character as a Byte Order Mark(BOM) character `\ufeff`. The API writes an encrypted application identifier following the BOM character. This application identifier is written between double quotes. Headers for the CSV file follow the application identifier. The report contains the details regarding the users logged into the environment in a given time range.

The generated CSV file is compressed and the output is a ZIP file. The file can be downloaded using the Download REST API.

This is an asynchronous command, so use the job status URI to determine whether the operation is complete.

This API is version v2.

Required Roles

Service Administrator

Table 12-73 User Audit Report

Task	Request	REST Resource
User Audit Report	POST	`/interop/rest/v2/reports/useraudit`

REST Resource

POST `/interop/rest/v2/reports/useraudit`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the request parameters.

Table 12-74 Parameters

Name	Description	Type	Required	Default
`fileName`	File where report is to be populated	Payload	Yes	None
`since`	Report generation start date	Payload	Yes	None
`until`	Report generation end date	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
reports/useraudit
```

```
{
    "fileName": "userauditreport.csv",
    "since": "2022-10-01",
     "until":"2022-11-01"
}
```

Response

Supported Media Types: `application/json`

Table 12-75 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string

Table 12-75 (Cont.) Parameters

Parameters	Description
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "details": null,
    "status": -1,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/reports/
useraudit",
            "action": "POST",
            "rel": "self",
            "data": null
        },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/status/
jobs/22747152577657842",
            "action": "GET",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

Sample cURL command

```
curl -X POST -s -u '<USERNAME>:<PASSWORD>' -o response.txt -D respHeader.txt
-H
'Content-Type:application/json' -d
'{"fileName":"userauditreport.csv","until":"2022-11-01",
"since":"2022-10-01"}''https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/reports/
useraudit'
```

Role Assignment Report

Generates a Role Assignment Report (.CSV). This report lists the predefined roles (for example, Service Administrator) and application roles (for example, Approvals Ownership Assigner, Approvals Supervisor, Approvals Administrator, and Approvals Process Designer, which are Planning application roles) assigned to users. This report matches the CSV version of the Role Assignment Report generated from Access Control. Additionally, it can generate reports containing Identity Domain Administrator on the system by specifying the user type. The API writes the report to the filename provided, and the report can then be downloaded using the Download REST API.

This is an asynchronous job and uses the job status URI to determine if the operation is complete.

The presence of status -1 in the response indicates that the generation of Role Assignment Report is in progress. Use the job status URI to determine whether the generation of Role Assignment Report is complete. Any non-zero status except -1 indicates failure of generating Role Assignment Report.

This API is version v1.

Required Roles

Service Administrator or Access Control Manager

Table 12-76 User Assignment Report

Task	Request	REST Resource
Role Assignment Report	POST	`/interop/rest/security/{api_version}/roleassignmentreport/`
Role Assignment Report Status	GET	`/interop/rest/security/{api_version}/jobs/{jobId}`

REST Resource

POST `/interop/rest/security/{api_version}/roleassignmentreport`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/x-www-form-urlencoded`

The following table summarizes the request parameters.

Table 12-77 Parameters

Name	Description	Type	Required	Default
api_version	Specific API version	Path	Yes	None
filename	File name for the file where the report is to be populated, such as roleAssignmentReport.csv	Form	Yes	None
usertype	User type for which to generate the report. This paramenter is optional. If provided values can be either ServiceUsers or IDAdmins.	Form	No	ServiceUsers

Response

Supported Media Types: application/json

Table 12-78 Parameters

Parameters	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Can be self and/or Job Status. If set to Job Status, you can use the href to get the status of the import operation
data	Parameters as key value pairs passed in the request

Examples of Response Body

The following show examples of the response body in JSON format.

Response 1: Example when job is in progress:

```
{
    "links": [
        {
            "data": {
                "jobType": "GENERATE_ROLE_ASSIGNMENT_REPORT",
                "filename": "<filename>"
                "usertype": "<USER_TYPE>"
            },
            "action": "POST",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/jobs/<jobId>",
            "rel": "Job Status"
        }
    ],
    "status": -1,
    "details": null,
```

```
    "items": null
}
```

Response 2: Example when job completes with errors:

```
{
    "links": [
        {
            "data": {
                "jobType": "GENERATE_ROLE_ASSIGNMENT_REPORT",
                "filename": "<filename>"
                "usertype": "<USER_TYPE>"
            },
            "action": "POST",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/{api_version}/roleassignmentreport",
            "rel": "self"
        }
    ],
    "status": 1,
    "details": "EPMCSS-20665: Failed to generate Role Assignment
Report. Invalid or insufficient parameters are specified. Provide all
required parameters for the REST API. ",
    "items": null
}
```

Response 3: Example when job completes without errors:

```
{
    "links": [
        {
            "data": null,
            "action": "GET",
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobID>",
            "rel": "self"
        }
    ],
    "status": 0,
    "details": null,
    "items": null
}
```

Example 12-34 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
public void generateRoleAssignmentReport(String filename, String
userType) {
        try {
```

```
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/roleassignmentreport";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", filename);
                    reqParams.put("usertype", userType);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-35 Shell Script Sample code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL

```
funcGenerateRoleAssignmentReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
roleassignmentreport"
        params="filename=$1&usertype=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateRoleAssignmentReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Example 12-36 Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def generateRoleAssignmentReport(filename, userType) {

    String scenario = "Generating Role assignment report in " + filename + "
with usertype as " + userType;
    String params = "jobtype=GENERATE_ROLE_ASSIGNMENT_REPORT&filename="+
filename "&usertype=" + userType;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
roleassignmentreport");
```

```
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Get Available Roles

Returns all the application roles that are visible along with predefined roles that are available for an Oracle Enterprise Performance Management Cloud service.

This API is synchronous and returns the outcome of the operation in the response. Any non-zero status indicates failure of getting available roles.

This REST API is version v2.

Required Roles

Service Administrator or Access Control Manager

Table 12-79 Tasks for Getting Available Roles

Task	Request	REST Resource
Get Available Roles	GET	`/interop/rest/security/v2/role/getavailableroles`

REST Resource

GET `/interop/rest/security/v2/role/getavailableroles`

Supported Media Types: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Response

Supported Media Types: `application/json`

Table 12-80 Parameters

Parameters	Description
`links`	Detailed information about the link
`status`	Status of the operation • 0: Operation succeeded • 1: Operation failed
`error`	Detailed information about the error
`details`	Records matching the request

Examples of Response Body

The following show examples of the response body in JSON format.

Example 1: REST API Completes without Errors

```
{
  "links": {
    "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/v2/
role/getavailableroles",
    "action": "GET"
  },
  "status": 0,
  "error": null,
  "details": [
    {
      "name": "Ad Hoc - Create",
      "id": "HP:0016"
    },
    {
      "name": "Ad Hoc - Read Only User",
      "id": "HP:0017"
    },
    {
      "name": "Ad Hoc - User",
      "id": "HP:0015"
    },
    {
      "name": "Announcements - Manage",
      "id": "HP:0021"
    },
    {
      "name": "User",
      "id": "HUB:003"
    },
    {
      "name": "Viewer",
      "id": "HUB:004"
    }
  ]
}
```

Example 2: REST API Completes with Errors

```
{
  "links": {
    "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/role/getavailableroles",
    "action": "GET"
  },
  "status": 1,
  "error": {
    "errorcode": "EPMCSS-21192",
    "errormessage": "Failed to get available roles. Authorization
failed. Please provide valid authorized user."
  },
  "details": null
}
```

Sample cURL Commands

Sample cURL command using Basic Auth

```
curl -X GET -s -u '<USERNAME>:<PASSWORD>' -H 'Content-Type:
application/json'
'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com
/interop/rest/security/v2/role/getavailableroles'
```

Sample cURL command using oAuth

```
curl --location --request GET 'https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/v2/role/getavailableroles'
--header "Authorization: Bearer <OAUTH_TOKEN>"
```

Role Assignment Audit Report for OCI (Gen 2) Environments

Users with a Service Administrator role can use this API to generate a Role Assignment Audit Report of users with their pre-defined and application roles on OCI (Gen 2) Environments. This allows you to automate reporting on users role and application role assignments. The report shows all the changes made to the predefined role and application role assignments within the provided time frame. This report can be generated for the previous 90 days from the current date. You can download the report using the Download REST API. The report shows the timestamp (UTC) in the Date and Time column in 24-hour format.

This is an asynchronous job and uses the job status URI to determine if the operation is complete.

The presence of status -1 in the response indicates that the generation of the report is in progress. Use the job status URI to determine whether the generation of the report is complete. Any non-zero status except -1 indicates failure of generating the report.

The default retention period for audit data is 30 days; however, you can extend the retention period up to a maximum of 90 days from the Identity Console. If you want a longer duration of audit data, download a Role Assignment Audit Report and archive it.

This API is version v1.

Required Roles

Service Administrator or any EPM Cloud user assigned to the Identity Domain Administrator role. This command is applicable to OCI environments only.

Table 12-81 Role Assignment Audit Report for OCI (Gen 2) Environments

Task	Request	REST Resource
Role Assignment Audit Report	POST	`/interop/rest/security/{api_version}/roleassignmentauditreport/`
Role Assignment Audit Report Status	GET	`/interop/rest/security/{api_version}/jobs/{jobId}`

REST Resource

POST `/interop/rest/security/{api_version}/roleassignmentauditreport`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/x-www-form-urlencoded`

Table 12-82 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`from_date`	The start date for the report (in YYYY-MM-DD format)	Form	Yes	None
`to_date`	The end date for the report (in YYYY-MM-DD format)	Form	Yes	None

Table 12-82 (Cont.) Parameters

Name	Description	Type	Required	Default
`filename`	CSV file where the report is to be populated, such as roleAssignmentAuditReport.csv	Form	Yes	None

Response

Supported Media Types: `application/json`

Sample Role Assignment Audit report

	A	B	C	D	E
1	**User Name**	**Role**	**Action**	**Administrator**	**Date and Time**
2	jane.doe@example.com	User	Assign	epm.admin@example.com	July 09, 2021 03:54:52 UTC
3	jane.doe@example.com	Run Integrations	Assign	epm.admin@example.com	July 09, 2021 03:54:52 UTC
4	john.doe@example.com	Service Administrator	Assign	epm.admin@example.com	July 09, 2021 03:51:28 UTC
5	john.smith@example.com	Power User	Unassign	epm.admin@example.com	July 09, 2021 03:53:04 UTC
6	john.smith@example.com	User	Assign	epm.admin@example.com	July 09, 2021 03:54:06 UTC

Information on deleted users who were previously assigned to predefined roles in the environment is listed with the display name (first and last name) of the user in the User Name column. In such cases, the Role column indicates the predefined role that the user had before the user's account was deleted. This change does not apply to application roles, if any, that were assigned to the deleted user; such assignments are shown with the User Login Name of the user. For an example, see the information in the red box in the following illustration.

````-

| | A | B | C | D | E |
|---|---|---|---|---|---|
| 1 | User Name | Role | Action | Administrator | Date and Time |
| 2 | Jane Doe | User | Assign | epm.admin@example.com | July 09, 2021 03:54:52 UTC |
| 3 | jane.doe@example.com | Run Integrations | Assign | epm.admin@example.com | July 09, 2021 03:54:52 UTC |
| 4 | john.doe@example.com | Service Administrator | Assign | epm.admin@example.com | July 09, 2021 03:51:28 UTC |
| 5 | john.smith@example.com | Power User | Unassign | epm.admin@example.com | July 09, 2021 03:53:04 UTC |
| 6 | john.smith@example.com | User | Assign | epm.admin@example.com | July 09, 2021 03:54:06 UTC |

**Table 12-83 Parameters**

| Parameters | Description |
|---|---|
| `details` | In case of errors, details are published with the error string |
| `status` | See Migration Status Codes |
| `links` | Detailed information about the link |
| `href` | Links to API call |
| `action` | The HTTP call type |
| `rel` | Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status |
| `data` | Parameters as key value pairs passed in the request |

### Examples of Response Body
````

The following show examples of the response body in JSON format.

Response 1 example when job is in progress:

```
{
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/roleassignmentauditreport",
            "data": {
                "jobType": "GENERATE_ROLE_ASSIGNMENT_AUDIT_REPORT",
                "to_date": "<toDate>",
                "filename": "<filename>",
                "from_date": "<fromDate>"
            },
            "action": "POST"
        },
        {
            "rel": "Job Status",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/jobs/3023387588778806",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null,
    "status": -1,
    "items": null
}
```

Response 2 example when job completes with errors:

```
{
    "links": [
        {
            "data": {
                "jobType": "GENERATE_ROLE_ASSIGNMENT_AUDIT_REPORT",
            "from_date": " ",
            "to_date": " ",
                "filename": " "
            },
            "action": "POST",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
{api_version}/roleassignmentauditreport",
            "rel": "self"
        }
    ],
    "status": 1,
    "details": "EPMCSS-20678: Failed to generate Role Assignment Audit
Report. Invalid or insufficient parameters specified. Provide all required
parameters for the REST API. ",
```

```
    "items": null
}
```

Response 3 example when job completes without errors:

```
{
    "links": [
        {
            "data": null,
            "action": "GET",
            "href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<jobID>",
            "rel": "self"
        }
    ],
    "status": 0,
    "details": null,
    "items": null
}
```

Example 12-37 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
public void generateRoleAssignmentAuditReport(String fromDate, String
toDate,String fileName) {
     try {
        String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/roleassignmentauditreport";
        Map<String, String> reqHeaders = new HashMap<String, String>();
        reqHeaders.put("Authorization", "Basic " + DatatypeConverter
            .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

        Map<String, String> reqParams = new HashMap<String, String>();
        reqParams.put("from_date", fromDate);
        reqParams.put("to_date", toDate);
        reqParams.put("filename", fileName);

        Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,

 "POST");
        String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
        System.out.println(jobStatus);
    } catch (Exception e) {
        e.printStackTrace();
    }
}
```

Example 12-38 Shell Script Sample code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL

```
funcGenerateRoleAssignmentAuditReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
roleassignmentauditreport"
      params="from_date=$1&to_date=$2&filename=$3"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateRoleAssignmentAuditReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Example 12-39 Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def generateRoleAssignmentAuditReport(from_date,to_date,fileName) {

    String scenario = "Generating Role assignment audit report in " +
fileName;
    String params =
"jobtype=GENERATE_ROLE_ASSIGNMENT_AUDIT_REPORT&from_date="+from_date+"&to_dat
e="+to_date+"&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
roleassignmentauditreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}
```

Invalid Login Report for OCI (Gen 2) Environments

Users who have both a Service Administrator role and an Identity Domain Administrator role can use this API to generate an Invalid Login Report on OCI (Gen 2) environments. This allows you to automate reporting on unsuccessful login attempts. This report shows unsuccessful login attempts for users within the provided time frame. This report can be generated for the previous 90 days from the current date. You can download the report using the Download REST API. This report shows all the unsuccessful login attempts to the

corresponding Identity Cloud Service. These may not all be to this particular EPM Cloud instance.

This is an asynchronous job and uses the job status URI to determine if the operation is complete.

The presence of status -1 in the response indicates that the generation of the report is in progress. Use the job status URI to determine whether the generation of the report is complete. Any non-zero status except -1 indicates failure of generating the report.

The default retention period for audit data is 30 days; however, you can extend the retention period up to a maximum of 90 days from the Identity Console. If you want a longer duration of audit data, download an Invalid Login Report and archive it.

This API is version v1.

Required Roles

Identity Domain Administrator and any predefined role (Service Administrator, Power User, User, or Viewer)

Table 12-84 Invalid Login Report for OCI (Gen 2) Environments

Task	Request	REST Resource
Invalid Login Report	POST	`/interop/rest/security/{api_version}/invalidloginreport/`
Invalid Login Report Status	GET	`/interop/rest/security/{api_version}/jobs/{jobId}`

REST Resource

POST `/interop/rest/security/{api_version}/invalidloginreport`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/x-www-form-urlencoded`

The following table summarizes the request parameters.

Table 12-85 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None

Table 12-85 (Cont.) Parameters

Name	Description	Type	Required	Default
`from_date`	The start date for the report (in YYYY-MM-DD format)	Form	Yes	None
`to_date`	The end date for the report (in YYYY-MM-DD format)	Form	Yes	None
`filename`	CSV file where the report is to be populated, such as InvalidLoginReport.csv	Form	Yes	None

Response

Supported Media Types: `application/json`

Example report:

	A	B	C
1	User Name	IP Address	Access Date and Time
2	john.doe@example.com	xxx.xx.xx.xx5	July 15, 2021 11:14:58 UTC
3	jane.doe@example.com	xxx.xx.xx.xx9	July 15, 2021 11:14:58 UTC
4	john.smith@example.com	xxx.xx.xx.xx3	July 15, 2021 11:14:57 UTC

Table 12-86 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status
`data`	Parameters as key value pairs passed in the request

Examples of Response Body

The following show examples of the response body in JSON format.

Response 1: Example When Job is in Progress:

```
{
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/invalidloginreport",
            "data": {
```

```
                "jobType": "GENERATE_INVALID_LOGIN_REPORT",
                "to_date": "<toDate>",
                "filename": "<filename>",
                "from_date": "<fromDate>"
            },
            "action": "POST"
        },
        {
            "rel": "Job Status",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/<api_version>/jobs/<job_id>",
            "data": null,
            "action": "GET"
        }
    ],
    "details": null,
    "status": -1,
    "items": null
}
```

Response 2: Example When Job Completes with Errors:

```
{
    "links": [
        {
            "data": {
                "jobType": "GENERATE_INVALID_LOGIN_REPORT",
            "from_date": " ",
            "to_date": " ",
                "filename": " "
            },
            "action": "POST",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
security/{api_version}/invalidloginreport",
            "rel": "self"
        }
    ],
    "status": 1,
    "details": "EPMCSS-20679: Failed to generate Invalid Login Report.
Invalid or insufficient parameters specified. Provide all required
parameters for the REST API. ",
    "items": null
}
```

Response 3: Example When Job Completes without Errors:

```
{
    "links": [
        {
            "data": null,
            "action": "GET",
            "href": " https://<SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/security/
<api_version>/jobs/<jobID>",
            "rel": "self"
        }
    ],
    "status": 0,
    "details": null,
    "items": null
}
```

Example 12-40 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
public void generateInvalidLoginReport(String fromDate, String toDate,
String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/invalidloginreport";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("from_date", fromDate);
            reqParams.put("to_date", toDate);
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

Example 12-41 Shell Script Sample code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL

```
funcGenerateInvalidLoginReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
invalidloginreport"
     params="from_date=$1&to_date=$2&filename=$3"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
```

```
        cssRESTAPI="generateInvalidLoginReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

Example 12-42 Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def generateInvalidLoginReport(from_date,to_date,fileName) {

    String scenario = "Generating Invalid Login report in" + fileName;
    String params =
"jobtype=GENERATE_INVALID_LOGIN_REPORT&from_date="+from_date+"&to_date=
"+to_date+"&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/invalidloginreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

Group Assignment Audit Report

Generates a group assignment audit report. The report contains details on the users and groups that were added to or removed from Access Control groups in a given date range. This report is in CSV format. Each row of the report provides the user or group that was added or removed, the group to which the user or group was added or removed from, the Service Administrator who performed the action, and the date and time when the action was completed. The API writes the report to the filename provided, and the report can then be downloaded using the Download REST API.

This is an asynchronous job and uses the job status URI to determine if the operation is complete.

The presence of status -1 in the response indicates that the generation of Role Assignment Report is in progress. Use the job status URI to determine whether the generation of Role Assignment Report is complete. Any non-zero status except -1 indicates failure of generating Role Assignment Report.

This API is version v2.

Required Roles

Service Administrator

REST Resource

POST `/interop/rest/{api_version}/reports/groupaudit`

Supported Media Type: `application/json`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 12-87 Tasks for Group Assignment Audit Report

Task	Request	REST Resource
Group Assignment Audit Report	POST	`/interop/rest/{api_version}/reports/groupaudit`
Group Assignment Audit Report Status	GET	`/interop/rest/{api_version}/jobs/{jobId}`

The following table summarizes the request parameters.

Table 12-88 Parameters

Name	Description	Type	Required	Default
`api_version`	Specific API version	Path	Yes	None
`filename`	The CSV file where the report is to be populated, such as `groupAssignmentAuditReport.csv`	Payload	Yes	None
`from_date`	The start date for the report (in YYYY-MM-DD format)	Payload	Yes	None
`to_date`	The end date for the report (in YYYY-MM-DD format)	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v2/reports/groupaudit
{
"fileName":"groupauditreport_test.csv",
"from_date":"2022-03-26",
```

```
"to_date":"2022-05-30"
}
```

Response

Supported Media Types: `application/json`

Table 12-89 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "links": [
      {
         "rel": "self",
         "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.cominterop/rest/
{api_version}/reports/groupaudit",
         "data": null,
         "action": "POST"
      },
      {
         "rel": "Job Status",
         "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v2/
jobs/3180621025673301",
         "data": null,
         "action": "GET"
      }
   ],
   "status": -1,
   "details": null
}
```

Example 12-43 Java Sample Code

Prerequisites: json.jar

Common Functions: See CSS Common Helper Functions for Java

```
    //
    //BEGIN
    //
    public void groupAssignmentAuditReport(String fileName, String
from_date, String to_date)
             throws Exception {
        JSONObject params = new JSONObject();
        params.put("fileName", fileName);
        params.put("from_date", from_date);
        params.put("to_date", to_date);

        String urlString = String.format("%s/interop/rest/%s/reports/
groupaudit", serverUrl, apiVersion);
        String response = executeRequest(urlString, "POST",
params.toString(), "application/json");
        getJobStatus(fetchPingUrlFromResponse(response, "Job Status"),
"GET");
    }
    //
    // END
    //
```

Example 12-44 Shell Script Sample code

Prerequisites: jq (http://stedolan.github.io/jq/download/linux64/jq)

Common Functions: See CSS Common Helper Functions for cURL

```
funcgroupAssignmentAuditReport () {
    url=$SERVER_URL/interop/rest/v2/reports/groupaudit
    fileName="groupAssignmentAuditReport.csv"
    from_date="2022-03-01"
    to_date="2022-05-30"

param="{\"fileName\":\"$fileName\",\"from_date\":\"$from_date\",\"to_date\":\
"$to_date\"}"
    funcExecuteRequest "POST" $url "$param" "application/json"
    output=$(cat response.txt)
    status=$(echo $output | jq '.status')
    echo "Status :$status"
    if [ $status == -1 ]; then
        echo "group assignment audit report generation in progress"
        funcGetStatus "GET"
    else
        error='echo $output | jq '.details''
        echo "Error occured. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Example 12-45 Groovy Sample Code

Common Functions: See CSS Common Helper Functions for Groovy

```
def groupAssignmentAuditReport (fileName, from_date, to_date) {
        String scenario = "Group Assignment Audit Report";
        def url;
        def payload = new JsonBuilder()
      payload fileName:fileName,
            from_date:from_date,
            to_date:to_date
     url = new URL(serverUrl + "/interop/rest/v2/reports/groupaudit");
     params=payload.toString();
     response = executeRequest(url, "POST", params, "application/
json");
     if (response != null) {
       getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
     }
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Adding Users to a Team for Account Reconciliation

Adds Oracle Enterprise Performance Management Cloud users listed in a UTF8 formatted CSV file to an existing team in Access Control for Account Reconciliation. The file must be uploaded to the environment before using this API, and the file should be deleted after the API executes. Use the Upload REST API to upload the file.

A primary user is, by default, designated to perform the tasks that are assigned to the team. The file format is as follows:

```
User Login, primary_user
jdoe, yes
jane.doe@example.com,no
```

Note: The users are added only if both these conditions are met:

- User login IDs included in the file exist in the identity domain that services the environment
- The user is assigned to a pre-defined role in the identity domain

The API is asynchronous and returns the Job ID. Use the job status URI to determine whether the process is complete. The presence of status -1 in the response indicates that the update is in progress. Any non-zero status except -1 indicates failure for the update.

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

REST Resource

`POST /armARCS/rest/{version}/jobs`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs/`

Request

Supported Media Types: `application/x-www-form-urlencoded`

Example of Request Body

The following table summarizes the parameters of the JSON request.

Table 12-90 Parameters

Name	Data type	Description
`version`	String	The version of the API you are developing with. For the current release, the version is v1.
`jobName`	String	The name of the job, `ADD_USERS_TO_TEAM`.

`fileName`	String	The name of the uploaded ANSI or UTF-8 encoded CSV file containing information on the users to be added, for example, `addUsersToTeam.csv`.
		The file must have been uploaded already using the Upload REST API. The CSV file should not include the account of the user who executes this command.
		A primary user is, by default, designated to perform the tasks that are assigned to the team. The file format is as follows:
		`User Login, primary_user`
		`jdoe, yes`
		`jane.doe@example.com,no`

`teamName`	String	The name of an existing team in Access Control, such as `Team1`

Example of Request body

```
{
   "jobName":"ADD_USERS_TO_TEAM",
      "parameters":{
      "fileName":"users.csv",
      "teamName":"Team1"
   }
}
```

Response

Supported Media Types: `application/json`

Table 12-91 Parameters

Name	Description
`status`	`-1` - In Progress `0` - Success `1` - Failure
`details`	In case of errors, details are published with the error string
`descriptiveStatus`	The status of the job, such as `Completed` or `Error`.
`items`	Collection of notification categories
`links`	Detailed information about the link
`href`	Links to the API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs/
100000000053010",
      "action": "GET"
    }
  ],
  "status": -1,
  "type": "ARCS",
  "link": null,
  "items": null,
  "error": null
}
```

Prerequisites: json.jar

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Adding Users to a Team for Financial Consolidation and Close and Tax Reporting

Adds Oracle Enterprise Performance Management Cloud users listed in a UTF8 formatted CSV file to an existing team in Access Control. The file must be uploaded to the environment before using this API, and the file should be deleted after the API executes. Use the Upload REST API to upload the file.

A primary user is, by default, designated to perform the tasks that are assigned to the team. The file format is as follows:

```
User Login, primary_user
jdoe, yes
jane.doe@example.com,no
```

Note: The users are added only if both these conditions are met:

- User login IDs included in the file exist in the identity domain that services the environment
- The user is assigned to a pre-defined role in the identity domain

The API is asynchronous and returns the Job ID. Use the job status URI to determine whether the process is complete. The presence of status -1 in the response indicates that the update is in progress. Any non-zero status except -1 indicates failure for the update.

Note that this feature uses a Planning REST API to run a job. Details about Planning REST APIs are described here: Planning REST APIs.

REST Resource

```
POST /HyperionPlanning/rest/{api_version}/applications/{application}/fcmjobs
```

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/FCCS/fcmjobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/x-www-form-urlencoded`

The following table summarizes the parameters.

Table 12-92 Parameters

Name	Description	Type	Required	Default
`api_version`	The version of the API you are developing with; for the current release, it is v3	Path	Yes	None
`application`	The name of the application, for example, `FCCS` or `TRCS`	Path	Yes	None

Example of Request Body

The following table summarizes the parameters of the JSON request.

Table 12-93 Parameters

Name	Description
`jobName`	The name of the job, ADD_USERS_TO_TEAM

`fileName`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing information on the users to be added, for example, `addUsersToTeam.csv`.
	The file must have been uploaded already using the Upload REST API. The CSV file should not include the account of the user who executes this command.
	A primary user is, by default, designated to perform the tasks that are assigned to the team. The file format is as follows:
	
	`User Login, primary_user`
	`jdoe, yes`
	`jane.doe@example.com,no`

`teamName`	The name of an existing team in Access Control, for example, `Team1`

Example of Request body

```
{
   "jobName":"ADD_USERS_TO_TEAM",
```

```
      "parameters":{
      "fileName":"users.csv",
      "teamName":"Team1"
   }
}
```

Response

Supported Media Types: `application/json`

Parameters

Table 12-94 Parameters

Name	Description
`jobName`	`ADD_USERS_TO_TEAM`
`jobID`	The ID of the job, such as 100000000114040
`status`	`-1` - In Progress
	`0` - Success
	`1` - Failure
`details`	In case of errors, details are published with the error string
`descriptiveStatus`	The status of the job, such as `Completed` or `Error`
`items`	Collection of notification categories
`links`	Detailed information about the link
`href`	Links to the API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
   "jobName":"ADD_USERS_TO_TEAM",
   "jobId":100000000114040,
   "descriptiveStatus":",
   "detail":"In Progress",
   "status":-1,
   "items":null,
   "links":[
      {
         "rel":"self",
         "href":"https://<SERVICE_NAME>-<TENANT_NAME>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/FCCS/fcmjobs/100000000114040",
         "action":"GET"
      }
   ]
}
```

Prerequisites: json.jar

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Removing Users from a Team for Account Reconciliation

Removes Oracle Enterprise Performance Management Cloud users listed in a UTF8 formatted CSV file from an existing team in Access Control for Account Reconciliation. The file must be uploaded to the environment before using this API, and the file should be deleted after the API executes. Use the Upload REST API to upload the file.

A primary user is, by default, designated to perform the tasks that are assigned to the team. The file format is as follows:

```
User Login, primary_user
jdoe, yes
jane.doe@example.com,no
```

Note: The users are removed only if both these conditions are met:

- User login IDs included in the file exist in the identity domain that services the environment
- The user is assigned to a pre-defined role in the identity domain

The API is asynchronous and returns the Job ID. Use the job status URI to determine whether the process is complete. The presence of status -1 in the response indicates that the update is in progress. Any non-zero status except -1 indicates failure for the update.

REST Resource

```
POST /armARCS/rest/{version}/jobs
```

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<dcX>.oraclecloud.com/armARCS/
rest/v1/jobs/
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/x-www-form-urlencoded`

Example of Request Body

The following table summarizes the parameters of the JSON request.

Table 12-95 Parameters

Name	Data type	Description
`version`	String	The version of the API you are developing with. For the current release, the version is v1.
`jobName`	String	The name of the job, `REMOVE_USERS_FROM_TEAM`.

`fileName`	String	The name of the uploaded ANSI or UTF-8 encoded CSV file containing information on the users to be remved, for example, `removeUsersFromTeam.csv`.
		The file must have been uploaded already using the Upload REST API. The CSV file should not include the account of the user who executes this command.
		A primary user is, by default, designated to perform the tasks that are assigned to the team. The file format is as follows:
		`User Login, primary_user`
		`jdoe, yes`
		`jane.doe@example.com,no`

`teamName`	String	The name of an existing team in Access Control, such as `Team1`

Example of Request Body

```
{
   "jobName":"REMOVE_USERS_FROM_TEAM",
   "parameters":{
      "fileName":"users.csv",
      "teamName":"Team1"
   }
}
```

Response

Supported Media Types: `application/json`

Parameters

Table 12-96 Parameters

Name	Description
`type`	Application type

Table 12-96 (Cont.) Parameters

Name	Description
`status`	`-1` - In Progress `0` - Success `1` - Failure
`details`	In case of errors, details are published with the error string
`descriptiveStatus`	The status of the job, such as `Completed` or `Error`.
`items`	Collection of notification categories
`links`	Detailed information about the link
`href`	Links to the API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs/
100000000053010",
      "action": "GET"
    }
  ],
  "status": -1,
  "type": "ARCS",
  "link": null,
  "items": null,
  "error": null
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

Removing Users from a Team for Financial Consolidation and Close and Tax Reporting

Removes Oracle Enterprise Performance Management Cloud users listed in a UTF8 formatted CSV file from an existing team in Access Control. The file must be uploaded

to the environment before using this API, and the file should be deleted after the API executes. Use the Upload REST API to upload the file.

A primary user is, by default, designated to perform the tasks that are assigned to the team. The file format is as follows:

```
User Login, primary_user
jdoe, yes
jane.doe@example.com,no
```

Note: The users are removed only if both these conditions are met:

- User login IDs included in the file exist in the identity domain that services the environment
- The user is assigned to a pre-defined role in the identity domain

The API is asynchronous and returns the Job ID. Use the job status URI to determine whether the process is complete. The presence of status -1 in the response indicates that the update is in progress. Any non-zero status except -1 indicates failure for the update.

Note that this feature uses a Planning REST API to run a job. Details about Planning REST APIs are described here: Planning REST APIs.

REST Resource

```
POST /HyperionPlanning/rest/{api_version}/applications/{application}/fcmjobs
```

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/FCCS/fcmjobs
```

Required Roles

Service Administrators

Request

Supported Media Types: `application/x-www-form-urlencoded`

The following table summarizes the parameters.

Table 12-97 Parameters

Name	Description	Type	Required	Default
`api_version`	The version of the API you are developing with; for the current release, it is v3	Path	Yes	None
`application`	The name of the application, `FCCS`	Path	Yes	None

Example of Request Body

The following table summarizes the parameters of the JSON request.

Table 12-98 Parameters

Name	Description
`jobName`	The name of the job, REMOVE_USERS_FROM_TEAM

`fileName`	The name of the uploaded ANSI or UTF-8 encoded CSV file containing information on the users to be removed, for example, `removeUsersFromTeam.csv`.
	The file must have been uploaded already using the Upload REST API. The CSV file should not include the account of the user who executes this command.
	A primary user is, by default, designated to perform the tasks that are assigned to the team. The file format is as follows:
	`User Login, primary_user`
	`jdoe, yes`
	`jane.doe@example.com,no`

`teamName`	The name of an existing team in Access Control, such as `Team1`.

Example of Request Body

```
{
   "jobName":"REMOVE_USERS_FROM_TEAM",
      "parameters":{
      "fileName":"users.csv",
      "teamName":"Team1"
   }
}
```

Response

Supported Media Types: `application/json`

Parameters

Table 12-99 Parameters

Name	Description
`jobName`	`REMOVE_USERS_FROM_TEAM`
`jobID`	The ID of the job, such as 100000000114040
`status`	`-1` - In Progress `0` - Success `1` - Failure
`details`	In case of errors, details are published with the error string
`descriptiveStatus`	The status of the job, such as `Completed` or `Error`
`items`	Collection of notification categories
`links`	Detailed information about the link
`href`	Links to the API call
`action`	The HTTP call type
`rel`	Possible value: `self`
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
   "jobName":"REMOVE_USERS_FROM_TEAM",
   "jobId":100000000114040,
   "descriptiveStatus":",
   "detail":"In Progress",
   "status":-1,
   "items":null,
   "links":[
      {
         "rel":"self",
         "href":"https://<SERVICE_NAME>-<TENANT_NAME>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/v3/applications/FCCS/fcmjobs/100000000114040",
         "action":"GET"
      }
   ]
}
```

Common Functions

- See Common Helper Functions for Java
- See Common Helper Functions for cURL
- See CSS Common Helper Functions for Groovy

13

Usage Simulation REST APIs

This section describes the REST APIs for simulating user activities for testing purposes.

Table 13-1 Usage Simulation

Task	Request	REST Resource
Simulate Concurrent Usage	POST	`/interop/rest/v1/concurrentusage/run`

Simulate Concurrent Usage

The Simulate Concurrent Usage REST API executes different concurrent operations on an environment by simulating users. It can be used to validate the performance of the environment to verify that the response time is acceptable when the service is under the load during specific operations run by a specific number of users. For example, it can be used to measure performance when 50 users simultaneously open a form using different POVs. It allows the self-service load testing of environments.

This REST API performs the simulation by executing the specified operations for a given number of users and iterations. It runs multiple iterations to calculate the minimum time, the maximum time and the average time for a particular operation. It supports these operations to perform concurrent usage load testing:

- Open forms
- Save forms
- Run business rules
- Run data rules
- Open ad hoc grids
- Execute report
- Execute book

This REST API accepts a ZIP file, that must already have been uploaded to the environment, as input. The ZIP file contains one `requirement.csv` file, and the input files that support the use cases included in `requirement.csv`. The REST API then simulates the use cases and creates a report that may be emailed to one or more recipients.

This REST API is version v1.

Required Roles

Service Administrator (Identity Domain Administrator is also required to use testModes 0, 1, and 2.)

REST Resource

POST `/interop/rest/v1/concurrentusage/run`

Supported Media Types: application/json

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

The following table summarizes the request parameters.

Table 13-2 Parameters

Name	Description	Type	Data Type	Required	Default
`inputFile`	The name of the zip file that contains concurrent usage test cases. The zip file should contain a file named `requirement.csv`, which contains the details of all the operations to execute for this simulation test, and the input files that contain the details of each operation. For information on how to create these files, see Preparing to Run the simulateConcurrentUsage Command in *Working with EPM Automate for Oracle Enterprise Performance Management Cloud*. Use the Upload REST API to upload the zip file to the environment prior to calling this REST API.	Payload	String	Yes	None
`numberOfIterations`	Number of iterations each use case identified in `requirement.csv` has to run to measure the response time.	Payload	Integer	No	1
`notificationEmails`	Email addresses of the recipients to whom the result will be sent at the end of the concurrent usage simulation. The emails must be separated by semi-colons and enclosed in double quotes. For example: `"jdoe@example.com;jane.doe@example.com"`.	Payload	String	No	Email of the user who executed the API
`lagTime`	Number of seconds (5 seconds or more) between the execution of each use case in `requirement.csv`.	Payload	Integer	No	5

Table 13-2 (Cont.) Parameters

Name	Description	Type	Data Type	Required	Default
testMode	Mode in which concurrent usages simulation has to run. Possible values are 0, 1, 2 and 3. • **0 – Default mode**: Adds simulated users to the environment and assigns them the Service Administrator role, runs the simulation, and then deletes the simulated users. This mode is useful if you want to run the test only one time. The simulated users have these properties: – **First Name**: testuser1, testuser2, and so on – **Last Name**: testuser1, testuser2, and so on – **Email Address**: testuser1@discard.oracle.com, testuser2@discard.oracle.com, and so on – **Username**: testuser1, testuser2, and so on • **1 – Add Users Only mode**: Adds simulated users to the environment and assigns them the Service Administrator role, but does not run the simulation or delete the simulated users. • **2 – Delete Users Only mode**: Deletes simulated users created in a previous concurrent usage simulation run. Does not create users or run the simulation. • **3 – Simulation Only mode**: Runs the simulation using already existing simulated users without adding or deleting users.	Payload	Integer	No	0

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
interop/rest/v1/concurrentusage/run
```

```
{
    "inputFile": "<ZIP_FILE_NAME>",
    "numberOfIterations": 1,
    "testMode": 0,
    "notificationEmails": "<EMAIL_ADDRESS>",
```

```
    "lagTime": 5
}
```

Sample Request

```
{
    "inputFile" : "InputFiles2.zip",
    "numberOfIterations" : 1,
    "testMode" : 0,
    "notificationEmails" : "abc@discard.oracle.com",
    "lagTime" : 10
}
```

Response

Supported Media Types: `application/json`

Table 13-3 Parameters

Name	Description
`details`	In the case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Possible values: `self` or `Job Status`. If the value is set to `Job Status`, you can use the href to get the status
`data`	null

Example of Response Body

Example 1: Error Case

```
{
    "details": "InputFile is missing in request body",
    "status": 1,
    "items": null,
    "links": [{
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.epm.<dcX>.ocs.oraclecloud.com/interop/rest/v1/
concurrentusage/run",
        "action": "POST",
        "rel": "self",
        "data": {
            "jobType": "RUN_CONCURRENTUSAGE",
            "numberOfIterations": 2,
            "testMode": 0,
            "lagTime": 5,
            "inputfile": "",
            "notificationEmails": "abc@discard.oracle.com"
        }
```

```
    }]
}
```

Example 2: Success Case

```
{
    "details": null,
    "status": -1,
    "items": null,
    "links": [{
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.epm.<dcX>.ocs.oraclecloud.com/interop/rest/v1/concurrentusage/
run",
        "action": "POST",
        "rel": "self",
        "data": {
            "jobType": "RUN_CONCURRENTUSAGE",
            "numberOfIterations": 2,
            "testMode": 0,
            "lagTime": 5,
            "inputfile": "InputFiles2.zip",
            "notificationEmails": "abc@discard.oracle.com"
            }
            },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.epm.<dcX>.ocs.oraclecloud.com/interop/rest/v1/concurrentusage/
jobs/437838742934700",
            "action": "GET",
            "rel": "Job Status",
            "data": null
        }
    ]
}
```

14

Reporting REST APIs

Use the topics in this chapter to run reports with REST APIs for Account Reconciliation, Financial Consolidation and Close, Tax Reporting, and Data Management.

For reports on users with REST APIs, see User Access Report (v1) and User Access Report (v2).

Generate Report for Account Reconciliation

Generates either a single predefined Reconciliation Compliance report, predefined Transaction Matching report or a custom report.

This API is version v1.

> **Note:**
>
> All parameters must be specified for a report.

REST Resource

```
POST        /arm/rest/fcmapi/{api_version}/report
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 14-1 REPORT

Name	Description	Path	Required
`api_version`	Version of the API you are working with. This release is v1	Yes	Yes
`groupName`	The name of the group the report is associated with.	No	Yes

Table 14-1 (Cont.) REPORT

Name	Description	Path	Required
`reportName`	The name of the report to be generated.	No	Yes
`generatedReportFileName`	The name specified by the user of the report to be generated. If this parameter is not provided, then the report will get generated with the data for `reportName` parameter in this table.	No	No
`parameters`	Each report may have different parameters. Types of parameters: • Numerical - should be in BigDecimal format. • Text - standard string • Date - can be in format `yyyy-MM-dd` for example `2020-10-01`. To use the current date, use the value "CURRENT_DATE". • Date/Time - can be in format `yyyy-MM-dd HH:mm:ss` or `yyyy-MM-dd'T'HH:mm:ss` for example `2020-10-01 13:01:00`, `2020-10-01T13:01:00`. To use the current date and time, use the value "CURRENT_DATE_TIME". • Boolean • Users - user login ID • List of choices - case insensitive values	No	No
`format`	The format of the report (HTML, PDF, XLSX, CSV or CSV2).	No	No (default is PDF)
`module`	The module within Account Reconciliation: RC (Reconciliation Compliance) or TM (Transaction Matching.	No	No (default is RC)
`emails`	Comma separated list of email addresses that will receive the report once it's generated.	No	No

Table 14-1 (Cont.) REPORT

Name	Description	Path	Required
runAsync	Generation of report runs asynchronously (true) or synchronously (false). Oracle recommends setting this value to true (async) for larger reports. An example of request body and output is shown.	No	No (default is false)

> **Note:**
>
> If the required parameters, `groupName` or `reportName` are not specified, you receive an error.
>
> For details about `reportName` or `parameters`, see Working with Predefined Reports in Reconciliation Compliance or Working with Predefined Reports in Transaction Matching in *Administering Account Reconciliation*.
>
> For details about **Output Format**, see Generating the Report in *Administering Account Reconciliation*.
>
> For details about retrieving job status while running reports, see Retrieve Job Status for a Report.

.

Example of request body (to be run synchronously)

```
{
"groupName":"Reconciliation Manager",
"reportName":"Balance by Account Type",
"generatedReportFileName":"myReport.pdf",
 "parameters":{"Period":"June 2018","Currency Bucket": "Entered", "Rate
Type": "Accounting"},
"format":"PDF",
"module":"RC",
"emails":"user1@oracle.com,user2@oracle.com",
"runAsync":false
}
```

Example of request body (to be run asynchronously for larger reports)

```
{
"groupName":"Reconciliation Manager",
"reportName":"Balance by Account Type",
"generatedReportFileName":"myReport.pdf",
 "parameters":{"Period":"June 2018","Currency Bucket": "Entered", "Rate
Type": "Accounting"},
"format":"PDF",
```

```
"module":"RC",
"emails":"user1@oracle.com,user2@oracle.com",
"runAsync":true
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 14-2 Parameters

Name	Description
`type`	The module within Account Reconciliation: RC (Reconciliation Compliance) or TM (Transaction Matching.
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to the API call
`action`	The HTTP call type
`rel`	Relationship type (`self`, `Job Status`). if set to `Job Status`, you can use the `href` to get the status of the operation
`data`	Parameters as key value pairs passed in the request

Examples of Response Body

The following is an example of the response body in JSON format for a Reconciliation Compliance successfully completed report called My Report in pdf format generated synchronously (runAsync=false):

```
{
"type":"RC",
"status":0,
 "details": "myReport.pdf",
 "links" [{
 "action": "POST",
  "href":  "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/fcm/rest/fcmapi/v1/
report",
  "rel":  "self"
  },
       {
            "rel": "report-content",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/v1/
applicationsnapshots/myReport.pdf",
            "action": "GET"
}
]
}
```

The following is an example of the response body in JSON format for a Reconciliation Compliance report generated asynchronously (runAsync=true) where the report is "In Process" and you can use the Job ID generated to retrieve the job status. See Retrieve Job Status for a Report:

```
{
 "links":[
{
 "rel":"self",
 "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/
report",
"action": "POST"
},
{
"rel":"Job Status",
 "href":  "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/
report/job/TM/100000001001009",
 "action": "GET"
}
],
"details":"In Process",
"status":-1,
}
```

Generate Report for Financial Consolidation and Close and Tax Reporting

Generates a report for Financial Consolidation and Close (Task Manager, Supplemental Data, and Enterprise Journal) and Tax Reporting (Task Manager and Supplemental Data).

This API is version v1.

> **Note:**
>
> All parameters must be specified for a report.

REST Resource

```
POST       /HyperionPlanning/rest/fcmapi/{api_version}/report
```

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 14-3 Report Parameters

Name	Description	Path	Required
`api_version`	Version of the API you are working with. This release is v1	Yes	Yes
`groupName`	The name of the group the report is associated with.	No	Yes
`reportName`	The name of the report to be generated.	No	Yes
`generatedReportFileName`	The user-specified name of the report to be generated. If this parameter is not provided, then the report will get generated with the data for `reportName` parameter in this table.	No	No
`parameters`	Each report may have different parameters. Types of parameters: • Numerical - should be in BigDecimal format. • Text - standard string • Date - can be in format `yyyy-MM-dd` for example `2020-10-01` • Date/Time: can be in format `yyyy-MM-dd HH:mm:ss` or `yyyy-MM-dd'T'HH:mm:ss` for example `2020-10-01 13:01:00`, `2020-10-01T13:01:00` • Boolean • Users - user login ID • List of choices - case insensitive values	No	No
`format`	The format of the report (HTML, PDF, XLSX, or CSV).	No	No (Default is PDF)
`module`	Module for which the report is created. For Financial Consolidation and Close, use SDM (Supplemental Data Manager) or Task Manager. For Tax Reporting, use SDM (Supplemental Data Manager) or Task Manager.	No	No
`emails`	Comma separated list of email addresses that will receive the report.	No	No

Table 14-3 (Cont.) Report Parameters

Name	Description	Path	Required
runAsync	Generation of report runs asynchronously (true) or synchronously (false). Oracle recommends setting this value to true (async) for larger reports. An example of request body and output is shown.	No	No (Default is false)

For details about reportName or parameters see Using Task Manager and Supplemental Data Manager Reports.

For details about **Output Format**, see Generating the Report.

For details about retrieving job status while running reports, see Retrieve Job Status for a Report.

Example of request body (to be run synchronously)

```
{
"groupName":"Task Manager",
"reportName":"Late Tasks",
"generatedReportFileName":"myReport.pdf",
 "parameters":{"Schedule" : "Qtr 2 Close", "Period":"Jun" },
"format":"PDF",
"module":"Task Manager",
"emails":"user1@oracle.com,user2@oracle.com",
"runAsync":false
}
```

Example of request body (to be run asynchronously for larger reports)

```
{
"groupName":"Task Manager",
"reportName":"Late Tasks",
"generatedReportFileName":"myReport.pdf",
 "parameters":{"Schedule" : "Qtr 2 Close", "Period":"Jun" },
"format":"PDF",
"module":"Task Manager",
"emails":"user1@oracle.com,user2@oracle.com",
"runAsync":true
}
```

Response

Supported Media Types: application/json

Parameters:

Table 14-4 Parameters

Name	Description
type	Type of report: SDM (Supplemental Data Management) or FCCS {Task Manager).
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to the API call
action	The HTTP call type
rel	Relationship type (self, Job Status). If set to Job Status, you can use the href to get the status of the operation.
data	Parameters as key value pairs passed in the request

Examples of Response Body

The following is an example of the response body in JSON format for a Financial Consolidation and Close report called MyReport in pdf format that was run successfully synchronously (runAsync=false):

```
{
     "links": [
         {
             "rel": "self",
             "href":
"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/fcmapi/v1/myReport.pdf",
             "action": "POST"
         },
         {
             "rel": "report-content",
             "href":
"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/fcmapi/v1/myReport.pdf",
             "action": "POST"
 "GET"
         }
     ],
     "details": "MyReport.pdf",
     "type": "FCCS",
     "status": 0,
     "link": null,
     "error": null,
     "items": null
}
```

The following is an example of the response body in JSON format for a Financial Consolidate and Close report generated asynchronously (runAsync=true) where the

report is "In Process" and you can use the Job ID generated to retrieve the job status. See Retrieve Job Status for a Report:

```
{
 "links":[
{
 "rel":"self",
 "href": "https://<SERVICE_NAME>-<TENANT_NAME>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/fcmapi/v1/report",
"action": "POST"
},
{
"rel":"Job Status",
 "href":  "https://<SERVICE_NAME>-<TENANT_NAME>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/fcmapi/v1/report/job/FCCS/100000001001009",
 "action": "GET"
}
],
"details":"In Process",
"status":-1,
"type":"FCCS",
"link":null,
"error":null
"items":null
}
```

Generate User Details Report for Account Reconciliation

Generates a User Details report for **Account Reconciliation**. The **User Details** report contains information on the users who have predefined roles in the environment and lists attributes of each user (such as name and email), their status, teams, predefined roles, workflow roles, organizations, groups, and last login timestamps.

You can use the **Download** REST API to download the report after generating it.

REST Resource

```
POST   /arm/rest/fcmapi/{api_version}/rc/export/users
```

A sample Account Reconciliation Access Control report:

	A	B	C	D	E	F	G	H	I	J	K	L
1	Name	User Login	Status	Teams	Email	Role	Workflow F	Preparer	Reviewer	Organizations	Power User	Last Login
2	John Doe	jdoe	Available	Admins	john.doe@example.com	Administrator		No	No			
3	Jane Doe	janedoe	Available		jane.doe@example.com	Power User		No	No			
4	App User1	app1	Available	Team A	app.user1@example.com	User		No	No			

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 14-5 REPORT

Name	Description	Path	Required
`api_version`	Version of the API you are working with. This release is v1	Yes	Yes
`fileName`	The name of the report to be generated.	No	Yes
`format`	The format of the report (CSV or XLS).	No	No (default = CSV)

> **Note:**
>
> For details about retrieving job status while running reports, see Retrieve Job Status for a Report.

Examples of request body

Example 1

```
{
    "fileName":"UserDetails.csv",
    "format":"CSV"
}
```

Example 2

```
{
    "fileName":"UserDetails.csv"
}
```

Example 3

```
{
    "fileName":"UserDetails.xls",
    "format":"xls"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 14-6 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to the API call
action	The HTTP call type
rel	Relationship type can be (self, or Job Status). If set to Job Status, you can use the href to get the status of the operation

Examples of Response Body

The following is an example of the response body in JSON format for an Account Reconciliation User Details report completed successfully:

Job Response

```
{
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/rc/
export/users",
            "action": "POST"
        },
        {
            "rel": "Job Status",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/rc/job/
42233",
            "action": "GET"
        }
    ],
    "details": "In Process",
    "status": -1,
    "type": "rc",
    "link": {},
    "error": null,
    "items": []
}
```

Job Status Response

```
{
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/rc/job/
42233",
```

```
            "action": "GET"
        },
        {
            "rel": "report-content",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/UserDetails.csv/contents",
            "action": "GET"
        }
    ],
    "details": "File UserDetails.csv generated successfully.",
    "status": 0,
    "type": "rc",
    "link": null,
    "error": null,
    "items": null
}
```


Generate User Details Report for Financial Consolidation and Close and Tax Reporting

Generates a User Details report (for Task Manager, Supplemental Data, and Enterprise Journal user assignments) in Financial Consolidation and Close and (for Task Manager and Supplemental Data user assignments) in Tax Reporting. The **User Details** report contains information on the users who have predefined roles in the environment and lists attributes of each user (such as name and email) as well as their status, teams, predefined roles, workflow roles, organizations, groups, and last login timestamps.

You can use the **Download** REST API to download the report after generating it.

This API version is v1.

REST Resource

```
POST   /HyperionPlanning/rest/fcmapi/{api_version}/fcm/export/users
```

A sample User Details Report:

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
1	Name	User Login	Status	Teams	Email	Role	Workflow	Task Assignee	Task Approver	Organizatic	Last Login	Form Preparer	Form Approver	Form Integrator	Groups
2	John Doe	john.doe@example.com	Available	Admins	john.doe@example.com	Administrator									Service Administrator
3	Jane Doe	jane.doe@example.com	Available		jane.doe@example.com	Power User									Power User
4	user Ats	ats_user	Available		example1@example.com	User									User
5	user2 Ats	ats_user2	Available		example2@example.com	user									User
6	View User	viewUser	Available		view.user@exaple.com	Viewer									Viewer

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 14-7 REPORT

Name	Description	Path	Required
`api_version`	Version of the API you are working with. This release is v1	Yes	Yes
`fileName`	The name of the report to be generated.	No	Yes
`format`	The format of the report (CSV or XLS).	No	No (default = CSV)

> **Note:**
>
> For details about retrieving job status while running reports, see Retrieve Job Status for a Report.

Examples of request body

Example 1

```
{
    "fileName":"UserDetails.csv",
    "format":"CSV"
}
```

Example 2

```
{
    "fileName":"UserDetails.csv"
}
```

Example 3

```
{
    "fileName":"UserDetails.xls",
    "format":"xls"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 14-8 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to the API call
action	The HTTP call type
rel	Relationship type can be (self, or Job Status). If set to Job Status, you can use the href to get the status of the operation

Example of Response Body

The following is an example of the response body in JSON format for User Details report completed successfully:

Job Response

```
{
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/fcmapi/v1/fcm/export/users",
            "action": "POST"
        },
        {
            "rel": "Job Status",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/fcmapi/v1/fcm/job/39068",
            "action": "GET"
        }
    ],
    "details": "In Process",
    "status": -1,
    "type": "fcm",
    "link": {},
    "error": null,
    "items": []
}
```

Job Status Response

```
{
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/fcmapi/v1/fcm/job/39068",
```

```
            "action": "GET"
        },
        {
            "rel": "report-content",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/userDetail.xls/contents",
            "action": "GET"
        }
    ],
    "details": "File userDetail.xls generated successfully.",
    "status": 0,
    "type": "fcm",
    "link": null,
    "error": null,
    "items": null
}
```


Retrieve Job Status for a Report

Use this REST API to get the processing state for a report job with a specified ID. Using this REST API requires prerequisites, such as understanding how to use jobs. See Prerequisites. Be sure that you understand how to use jobs as described in Managing Jobs.

Required Roles

Service Administrator, Power User, User, Viewer

`GET /arm/rest/fcmapi/{api_version}/job/{module}/{jobIdentifier}`

REST Resource

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 14-9 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`module`	Module for Account Reconciliation Report (valid values are RC or TM) Valid values for Financial Close & Consolidation or Tax Reporting are SDM or FCCS (Task Manager)	Path	Yes	Yes
`jobIdentifier`	The ID of the job	Path	Yes	None

Parameters

Parameters

The following table summarizes the response parameters.

Table 14-10 Parameters

Name	Description
`status`	Status of the job: -1 = in process; 0 = completed (success); 1 = error
`details`	Details about the job status, such as "Big Report 10.csv" for generation of a report in csv format named Big Report 10
`jobID`	The ID of the job, such as 224
`type`	The type of report: RC (Reconciliation Compliance); TM (Transaction Matching); FCCS (Task Manager) or SDM (Supplemental Data Manager)

Supported Media Types: `application/json`

Examples of Response Body

The following shows an example of the response body for a completed (successful) report:

```
{
"links": [
{
        "rel": "self",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/report",
        "action": "POST"
    },
}
            "rel": "report-content",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/Big+Report+10.csv/contents",
        "action": "GET"
}
],
    "details": "Big Report 10.csv".
    "status": 0,
     "type": "RC",
    "link": null,
    "error": null,
    "items": null
    }
```

The following shows an example of the response body for an error occurring during report generation:

```
{
"links": [
{
        "rel": "self",
        "href": "http://<SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/
report/job/TM/1145",
        "action": "GET"
    },
]
    "details": "Invalid query attached to the report".
    "status": 1,
     "type": "RC",
    "link": null,
    "error": null,
    "items": null
    }
```

The following shows an example of the response body for a report generation that is in process:

```
{
"links": [
{
        "rel": "self",
        "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/
report/job/TM/1124",
        "action": "GET"
    },
]
    "details": "In Process".
    "status": -1,
     "type": "RC",
    "link": null,
    "error": null,
    "items": null
    }
```

Execute Reports for Data Management

The Data Management reporting framework represents a unified solution that incorporates source and target data, templates, and user-defined SQL queries. Templates, created in Oracle Business Intelligence Publisher, consume data in XML format and generate reports dynamically. You can add SQL queries to extract data from tables, or couple them with the report parameters to extend the definition of a standard report. Data Management reports can be generated as PDF, Excel, Word, or HTML output.

Required Roles

Service Administrator, Power User

REST Resource

`POST /aif/rest/{api_version}/jobs`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 14-11 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are working with, such as V1	Path	Yes	None
jobType	The job type, REPORT	Path	Yes	None
jobName	The name of the report to be executed, such as Dimension Map For POV (Dimension, Cat, Per)	Path	Yes	None
reportFormatType	The file format of the report, pdf, xlsx, html, or excel	Path	Yes	pdf
parameters	Can vary in count and values based on the report	Path	Yes	None
Location	The location of the report, such as Comma_Vision	Path	Yes	None

Example of Request Body

The following shows an example of the request body in JSON format.

```
{
"jobType":"REPORT",
"jobName":"Dimension Map For POV (Dimension, Cat, Per)",
"reportFormatType":"PDF",
"parameters":{
       "Dimension Name":"ENTITY",
       "Category":"Actual",
        "Period":"Jan15",
       "Location":"Comma_Vision"
    }
}
```

For sample code, see the code samples included in Running Data Rules in Data Management.

Response

The following table summarizes the response parameters.

Table 14-12 Parameters

Name	Description
jobId	The process ID generated in Data Management for the job, such as 1885
status	The job status, such as RUNNING
logFileName	Log file containing entries for this execution, such as outbox\logs\BESSAPP-DB_1885.log
outputFileName	Name of the output file generated; you can use this name to download the report

Table 14-12 (Cont.) Parameters

Name	Description
processType	Type of process executed, EXECUTE_REPORT
executedBy	Login name of the user used to execute the rule, such as admin
details	Returns the exception stack trace in case of an application error, or null

Supported Media Types: application/json

Parameters

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"links":
[
0]
"status":"-1",
"details":"null",
"jobId":"1885",
"jobStatus":"RUNNING",
"logFileName":"outbox/logs/1885.log",
"outputFileName":"outbox/reports",
"processType":"EXECUTE_REPORT",
"executedBy":"admin"
}
```

For sample code, see the code samples included in Running Data Rules in Data Management.

15

Data Integration REST APIs

Use the Data Integration REST APIs to run integrations, import and export data mapping, import and export Data Integration APIs, and to execute reports.

> **Note:**
>
> All REST APIs used for Data Integration can be used as REST APIs for Data Management.

URL Structure for Data Integration

URL Structure

Use the following URL structure to access the Data Integration REST resources:

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/{api_version}/
{path)
```

Where:

api_version—API version you are developing with. The current REST API version for Data Integration is V1.

path—Identifies the resource

Getting API Versions for Data Integration APIs

You can manage versions using the set of REST resources summarized in the following table.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 15-1 Manage Versions of Data Integration APIs

Task	Request	REST Resource
Get API Versions for Data Integration APIs	GET	`/aif/rest/`
Get Information about a Specific API Version for Data Integration APIs	GET	`/aif/rest/{apiVersion}`

Get API Versions for Data Integration APIs

Returns information about which versions are available and supported. Multiple versions might be supported simultaneously.

> **Note:**
>
> An API version is always supported even when deprecated.

REST Resource

```
GET /aif/rest/
```

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 15-2 Parameters

Name	Description
`items`	Detailed information about the API
`version`	The version, such as V1
`lifecycle`	Possible values: active, deprecated
`isLatest`	Whether this resource is the latest, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"items": [1]
{
"version": "V1"
"isLatest": "true"
"lifecycle": "active"
"links": [3]
{
   "rel": "self"
```

```
   "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/"
   "action": "GET"
   },{
   "rel": "canonical"
   "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/"
   "action": "GET"
   },{
   "rel": "current"
   "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/V1"
   "action": "GET"
   }
}
}
```

Get Information about a Specific API Version for Data Integration APIs

Returns details for a specific REST API version for Data Integration.

REST Resource

`GET /aif/rest/{api_version}`

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 15-3 Parameters

Name	Description
`api_version`	Version of the API you are developing with, such as V1

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 15-4 Parameters

Name	Description
version	The version, such as V1
lifecycle	Lifecycle of the resource, active or deprecated
isLatest	Whether this resource is the latest, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"version": "V1"
"lifecycle": "active"
"isLatest": "true"
"links": [1]{
            "rel": "canonical"
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/V1"
            "action": "GET"
            }
}
```

Lock and Unlock POV

The lock REST API prevents data from being loaded to a selected POV by location or application associated with a current period and category.

When a location or application has been locked, you cannot import, validate, export, or rerun a validation.

You can also get the status of a single location or the status of all locactions for a period and category or a single application.

An unlock RESP API is available so that you can unlock a locked location or application.

Prerequisites:

You must have Service Administrator privileges to execute the lock and unlock REST APIs.

REST Resource

`/aif/rest/V1/POV`

Required Roles

Service Administrator, Power User

Method:

POST

Lock/Unlock by Location RESP API Request Parameters

The following table summarizes the request parameters for locking by location:

Table 15-5 Parameters

Name	Description	Type	Required	Default
`api_version`	V1	Path	Yes	None
`category`	Specify the predefined Scenario value based on the POV Category from the integration (data rule) definition. The categories available are those that are created in the Data Integration set-up, such as "Actual."	JSON payload	Yes	None
`period`	Specify the period of the POV from the integration or data load rule defined in Data Integration.	JSON payload	Yes	None
`location`	Specify the name of the location to lock so that data cannot be loaded to it.	JSON payload	Yes	None
`locktype`	Specify **location** for the location lock type.	JSON payload	Yes	None
`operation`	For a lock operation, specify **lock**. For an unlock operation, specify **unlock**.	JSON payload	Yes	None

JSON Request Payload to Lock Location Example:

```
{
"category": "Actual",
"period": "Jan-17",
"location": "FCCSAPP1_LOC1A",
"locktype":"location",
"operation": "lock"
}
```

Response to Locking a Location Example:

```
{
"details":",
"status": 0,
"response": "Location:FCCSAPP1_LOC1A has been locked successfully."
}
```

JSON Request Payload to Unlock Location Example:

```
{
"category": "Actual",
"period": "Jan-17",
"location": "FCCSAPP1_LOC1A",
"locktype":"location",
```

```
"operation":"unlock"
}
```

Response to Unlocking a Location Example:

The following is an example of unlocking a location REST API response.

```
{
"details":",
"status": 0,
"response":"Location:FCCSAPP1_LOC1A has been unlocked successfully."
}
```

Lock/Unlock by Application REST API Request Parameters

Name	Description	Type	Required	Default
`api_version`	V1	Path	Yes	None
`category`	Specify the predefined "Scenario" value based on the POV Category from the integration (data rule) definition. The categories available are those that were created in the Data Integration set-up, such as"Actual".	JSON payload	Yes	None
`period`	Specify the period of the POV from the integration or data load rule defined in Data Integration.	JSON payload	Yes	None
`application`	Specify the name of the application to lock so that data cannot be loaded to it.	JSON payload	Yes	None
`locktype`	Specify **application** for the application lock type.	JSON payload	Yes	None

Name	Description	Type	Required	Default
`unlockbylocation`	true/false—Boolean option for whether to unlock by location when an application is locked. If the "unlockbylocation" flag is set to "true" when locking the target application, then the system locks all rules present in the location under target application and not the application level lock. If the "unlockbylocation" flag is set to "false" when locking the target application, then the system locks all rules present in the location under the target application and the application level lock. Rules present for locations in the application cannot be executed when the location is unlocked until the application level lock is removed. Furthermore, when you create a new location under the locked target application, rules can't be executed in the new location until the application level lock is removed.	JSON payload	No	false
`operation`	For a lock operation, specify **lock**. For an unlock operation, specify **unlock**.	JSON payload	Yes	None

JSON Request Payload to Lock an Application Example:

```
{
"category": "Actual",
"period": "Jan-17",
"application": "FCCSAPP1",
"locktype":"application",
"operation": "lock"
}
```

Response to Locking an Application Example:

The following is an example of locking an application REST API response.

```
{
"details":null,
"status": 0,
"response":"Application: FCCSAPP1 has been locked successfully."
}
```

JSON Request Payload to Unlock a Location for a Locked Application Example:

```
{
"category": "Actual",
"period": "Jan-17",
"application": "FCCSAPP1",
"locktype":"application",
"unlockbylocation":"true",
"operation": "lock"
}
```

Response to Unlocking a Location for a Locked Application Example:

The following is an example of unlocking a location when locking an application REST API response.

```
{
"details":null,
"status": 0,
"response":"Application: FCCSAPP1 has been locked successfully."
}
```

Get Lock Status REST API Request

Get the status of a single location or the status of all locations for a period and category or a single application.

Method:

GET

REST Resource

```
/aif/rest/V1/POV?
location=<locationname>&period=<periodname>&category=<catname>&applicat
ion=<applicationname>
```

REST Resource Example

```
/aif/rest/V1/POV?application=FCCSAPP1&period=Jan-17&category=Actual
```

Response

Supported Media Types: `application/json`

Example of Response Body

```
{
"details": null,
"status": 0,
"response": [
{
"period": "Jan-17",
"category": "Actual",
```

```
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1_LOC11"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "AD_ASO_PBCS_To_FCCS"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "AD_ASO_EPBCS_To_FCCS"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "ORCL_To_FCCS"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "SQL_To_FCCS"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1_LOC31"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1_LOC23"
},
{
"period": "Jan-17",
```

```
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1_LOC22"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1_LOC27"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1_LOC26"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1_LOC25"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1_LOC24"
},
{
"period": "Jan-17",
"category": "Actual",
"status": "Locked",
"application": "FCCSAPP1",
"location": "FCCSAPP1_LOC21"

}
}
]
}
```


Running Integrations

Running an integration entails using the INTEGRATION job type for the jobs REST API to execute an integration or data load rule based on how periods are processed and source filters.

The INTEGRATION job type is an enhanced version of DATARULE job type (see Running Data Rules in Data Management). It is recommended that you use the INTEGRATION job type for future integration jobs.

The INTEGRATION jobtype supports running integrations/data load rules based on:

- period names provided to Planning
- Global POVs
- Planning substitution variables
- source filters selected as runtime parameters
- target options selected as runtime parameters
- existing period ranges

It also supports overriding the source filters and target options at runtime without modifying the integration definition.

Prerequisites:

You must have the required privileges to execute a specific data rule/integration.

REST Resource

`/aif/rest/{api_version}/jobs`

Required Roles

Service Administrator, Power User

Request

Supported Media Types: `application/json`

Method:

POST

Payload:

```
{
              "jobType":"INTEGRATION",
              "jobName":"GLDATA",
              "periodName":"{Mar-20}",
              "importMode":"Replace",
              "exportMode":"Merge",
              "fileName":"inbox/GLBALANCE.txt"
}
```

REST Payload Description

The following table summarizes the REST payload.

Table 15-6 Parameters

Name	Description	Type	Required	Default
`api_version`	V1	Path	Yes	None
`jobType`	INTEGRATION	JSON payload	Yes	None

Table 15-6 (Cont.) Parameters

Name	Description	Type	Required	Default
`jobName`	The name of the integration defined in Data Integration. You should enclose the rule or name in quotation marks if it contains a space.	JSON payload	Yes	None

Table 15-6 (Cont.) Parameters

Name	Description	Type	Required	Default
`periodname`	Name of the period(s)p enclosed in curly brackets ({}). `periodname` includes: • Single Period—Refers to the Data Integration period name for a single period. The parameter is whatever the period name is defined in Period mapping. • Multi-Period—Refers to a multi-period load. The parameter is {Month-Year}{Month-Year}. For example, {Jan-20}{Mar-20} refers to a multi-period load from Jan-20 to Mar-20. • Planning Period Name—Refers to a Planning period name. The parameter is {Month#Year}, for example, {Jan#FY20}{Mar#FY20}. Using this convention, the client executing the API does not need to know the Data Integration period names. Instead you specify the Planning member names for the Year and Scenario dimensions. This parameter is supported in the Planning,Tax Reporting, and Financial Consolidation and Close business processes. It is functional for both your service applications and cloud deployments derived from on-premises data sources. This parameter is useful if triggered from an Oracle Enterprise Performance Management Cloud Groovy script by capturing the Year and Period member names. The application period mapping or global period mapping must exist with the Year and Month in the target values of the period mapping. • Planning Substitution Variable—This is an extension of the previous Planning period name parameter whereby a substitution variable can be specified instead of the actual Year/Month member names. The convention is {Month#&CurYr}{&FcstMonth#&CurYr}; for example, {Jan#&CurYr}{&FcstMonth#&CurYr}.	JSON payload	Yes	None

Table 15-6 (Cont.) Parameters

Name	Description	Type	Required	Default
	A combination of both actual member names as well as substitution variables is supported. This parameter is supported in the Planning,Tax Reporting, and Financial Consolidation and Close business processes. It is functional for both your service applications and cloud deployments derived from on-premises data sources. The application period mapping or global period mapping must exist in the Data Integration of the instance where the API is executed, with the Year and Month in the target values of the period mapping. In this case, Year and Month refer to the current value of the substitution variable during execution. • GLOBAL POV—Executes the data load for the Global POV period. Use the format {GLOBAL_POV}. **Note:** If you use any other period naming parameter other than the parameters described above, you get an "Invalid Input – HTTP 400 " error message.			

Table 15-6 (Cont.) Parameters

Name	Description	Type	Required	Default
`importMode`	Determines how the data is imported into Data Integration. Acceptable values are: • Append—Add to the existing POV data in Data Integration. • Replace—Delete the POV data and replace it with the data from the file. • Map and Validate—Skip importing the data, but re-process the data with updated Mappings and Logic Accounts. • No Import—Skip data import into Data Integration staging table. • Direct—To use the direct load method to extract data from your on-premises data sources and then load the data directly to the EPM Cloud using the EPM Integration Agent, you need to pass an importMode of "Direct." Other modes are not applicable for the direct load.	JSON payload	Yes	None

Table 15-6 (Cont.) Parameters

Name	Description	Type	Required	Default
`exportMode`	Determines how the data is exported into Data Integration. Acceptable values for Planning business processes are: • Merge—Merge the data in the Data Integration staging table with the existing Planning data. • Replace—Clear the POV data and replace it with data in the Data Integration staging table. The data is cleared for Scenario, Version, Year, Period, and Entity dimensions. • Accumulate—Add the data in the Data Integration staging table to Planning. • Subtract—Subtract the data in the Data Integration staging table from existing Data Integration data. • No Export—Skip data export from Data Integration to Planning. Acceptable values for Financial Consolidation and Close and Tax Reporting are: • Merge—Merge the data in the staging table with the data in the Financial Consolidation and Close and Tax Reporting application. If data already exists in the application, the system overwrites the existing data with the new data from the load file. If data does not exist, the new data is created. • Replace—Delete the POV data and replace it with the data from the file. • No Export—Skip the data export from Data Integration to Financial Consolidation and Close or Tax Reporting If you use a regular data load for the Numeric Data Only and Numeric Data and All Data Type load methods, note the export mode requirements based on the load method: • For a Numeric Data Only load method, Accumulate and Subtract are the applicable export modes. • For a Numeric Data and All Data Type load method, Merge, Replace, and No Export are the applicable export modes. If you use the direct data load to extract data from your on-premises data	JSON payload	Yes	None

Table 15-6 (Cont.) Parameters

Name	Description	Type	Required	Default
	sources and then load the data directly to the EPM Cloud using the EPM Integration Agent, note the export mode requirements based on the load method: • For a Numeric Data Only load method, Merge, Accumulate, and Subtract are the applicable export modes. • For a Numeric Data and All Data Type load method, only Replace is the applicable export mode. • The No Export mode is not applicable for the Numeric Data Only and Numeric Data and All Data Type load methods. When running a Quick Mode load, valid export modes are: • Replace • Merge • Accumulate			
`fileName`	The `fileName` parameter is applicable only for native file-based data loads and ignored if specified for other loads. The file name is optional. If you do not specify a file name, this API imports the data contained in the file name specified in the load data rule. The data file must already reside in the Inbox prior to executing the data load rule, for example, . `inbox/GLBALANCES.txt`. You can also upload file to folders accessible from the `Applications-Inbox/Outbox Explorer` using a file name. Reference the files in this folder using this format:: `#epminbox/<filename>`.	JSON payload	No	None

Table 15-6 (Cont.) Parameters

Name	Description	Type	Required	Default
`sourceFilters`	A parameter used to update the source filters defined for the data load rule or integration. File-based applications—You cannot use the sourceFilters parameter for file-based applications. If you use this parameter with a file-based application, you get the HTTP 400 error message: "EPMFDM-ERROR: Data Load Rule does not support sourceFilters for File based loads." Data Source based applications—Replaces the pre-defined source filter parameters at the rule level for a data load rule/integration or specifies them at runtime (if not pre-defined at application level when the data source is the type of source application. Each filter name and its value should be sent as a key/value pair in the nested JSON object. The parameter name and value should be the English display names as seen in the user interface. Do not specify internal codes for parameter names and values using LOV validation. LOV validation is done for parameters having a restricted list of parameter values. All filter names are not mandatory. Only filter names specified in the nested JSON object are replaced or set at runtime. The remaining filters are picked from the application/rule definition. Oracle Essbase/Planning/Oracle General Ledger-based applications—Replaces the already defined dimension source filters for a data load rule/integration at runtime when Essbase/Planning/Oracle General Ledger balance type are the source applications. Each dimension name and its value should be sent as a key/value pair in the nested JSON object. Replacing or setting the dimension filters at run time is only supported for dimensions already having a filter defined in the data load rule/integration definition. All filter names are not mandatory. Only dimension names specified in the nested JSON object will be replaced or set in runtime. The remaining filters are	JSON payload	No	None

Table 15-6 (Cont.) Parameters

Name	Description	Type	Required	Default
	picked from data rule/integration definition. Dimension filters are supported for all dimensions including the "Scenario" dimension. The "Year" and "Period" dimensions are not supported as filters because they are driven by the POV range. All other source applications are not supported.			
`targetOptions`	A parameter used to update the target options defined for the data load rule or integration. Data Export based applications—Replaces the pre-defined target option parameters at the rule level for a data load rule/integration or specifies them at runtime (if not pre-defined at the rule level) when the Data Export is the type of target application. Each option name and its value should be sent as a key/value pair in the nested JSON object. The parameter name and value should be the English display names as seen in the user interface. Do not specify internal codes for parameter names and values using the LOV validation. LOV validation is done for parameters having a restricted list of parameter values. All option names are not required. Only option names specified in the nested JSON object are replaced or set at runtime. The remaining options are picked from the application/rule definition. Planning target application—Replaces the following options at runtime. • Refresh Database—Yes/No • Dimension Name—Specify a dimension name for a custom dimension load rule. In this way the same rule can be used to build multiple dimensions in runtime. • Purge Data File–Yes/No Other target applications are not supported.	JSON payload	No	None

Table 15-6 (Cont.) Parameters

Name	Description	Type	Required	Default
executionMode	The executionMode parameter is applicable only for Quick Mode integrations. Available options: • SYNC—When executionMode is SYNC, then the REST API call submits and waits until the integration has completed (that is, reached either a successful, failed, or warning state) before returning a response. • ASYNC—When executionMode is ASYNC, then the REST API call returns a response immediately without waiting for the integration to complete. Usually the integration is in a running state when the REST API response is received. executionMode is a mandatory parameter and cannot be blank.	JSON payload	Yes	None

Sample REST Payloads

Below are sample payloads based on the source application type.

File Based Loads

In this example, the source is a text file running an integration through a native File adapter:

```
{
"jobType":"INTEGRATION",
"jobName":"ERPDATA",
"periodName":"{Jan-20}",
"importMode":"REPLACE",
"exportMode":"NONE",
"fileName":"inbox/TestData.txt"
}
```

Planning Applications

In these examples, the source is an Essbase/Planning based application. The supported applications include:

- Planning modules
- Reporting cubes (plan types) of Planning
- Financial Consolidation and Close
- Tax Reporting
- Profitability and Cost Management

- Oracle ERP Cloud - Oracle General Ledger Balances Cube

Example of Planning to Financial Consolidation and Close Data Synchronization

```
{
"jobType":"INTEGRATION",
"jobName":"PBCStoFCCS",
"periodName":"{Jan-20}",
"importMode":"REPLACE",
"exportMode":"NONE",
"sourceFilters":{
    "Account":"@RELATIVE(Acc1,0)",
    "Entity":" @CHILDREN(Europe)",
    "Scenario":"Actual"
}
}
```

Example of Planning to to Data Export to File

```
{
"jobType":"INTEGRATION",
"jobName":"PBCStoFCCS",
"periodName":"{Jan-20}",
"importMode":"REPLACE",
"exportMode":"NONE",
"sourceFilters":{
    "Account":"@RELATIVE(Acc1,0)",
    "Entity":" @CHILDREN(Europe)",
    "Scenario":"Actual"
},
"targetOptions":{
    "Download File Name":"PlanningToFile.csv",
    "Column Delimiter":",",
    "Include Header":"Yes"
}
}
```

Data Source Applications

Example of Incremental File adapter:

```
{
"jobType":"INTEGRATION",
"jobName":"MyIncrementalFileLoad",
"periodName":"{Jan-20}{Mar-20}",
"importMode":"REPLACE",
"exportMode":"NONE",
"sourceFilters":{"Source File":"File1.txt"}
}
```

Example of Netsuite adapter:

```
{
"jobType":"INTEGRATION",
```

```
"jobName":"NetsuiteLoad",
"periodName":"{Jan-20}{Mar-20}",
"importMode":"REPLACE",
"exportMode":"NONE",
"sourceFilters":{
     "Postingperiod":"This Fiscal Quarter",
     "Mainline":"True"
}
}
```

Example of exporting Oracle NetSuite adapter toPlanning dimensions (metadata rule):

```
{
"jobType":"INTEGRATION",
"jobName":"NetsuiteMetadataLoad",
"periodName":"{Jan-20}{Mar-20}",
"importMode":"REPLACE",
"exportMode":"NONE",
"targetOptions":{
     "Refresh Database":"Yes",
     "Dimension Name":"Product"
}
}
```

Example of Oracle ERP Cloud (Payables Transactions):

```
{
"jobType":"INTEGRATION",
"jobName":"Payables1Load",
"periodName":"{Jan-20}",
"importMode":"REPLACE",
"exportMode":"NONE",
"sourceFilters":{
        "Invoice Type":"Credit Memo",
    "Cancelled Invoices Only ":"Yes"
}
}
```

Example of Quick Mode integration:

```
{
{
    "jobType":"INTEGRATION",
    "jobName":"QuickMode_LOC1_DL1",
    "periodName":"{Jan-17}",
    "importMode":"Direct",
    "exportMode":"Merge",
    "executionMode":"ASYNC"
}
```

Response

Supported Media Types: `application/json`

Running a Pipeline

Executes a Pipeline based on job parameters and variables that you select.

The Pipeline jobtype supports running a Pipeline based on the variable list (depends on how many variables have been defined for the Pipeline in the Data Integration user interface.)

Prerequisites:

- You must have predefined the Pipeline to run it.
- You must have the required privileges to execute a Pipeline.

REST Resource

`/aif/rest/{api_version}/jobs`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Method:

POST

Payload:

```
{
    "jobName": "DAILYLOAD",
    "jobType": "pipeline",
    "variables": {
                    "STARTPERIOD": "Jan-23",
                    "ENDPERIOD": "Jan-23",
                    "IMPORTMODE": "Replace",
                    "EXPORTMODE": "Merge",
                    "ATTACH_LOGS": "N",
                    "SEND_MAIL": "ALWAYS",
                    "SEND_TO": "user@company.com"
                }
}
```

REST Payload Description

The following table summarizes the REST payload.

Table 15-7 Parameters

Name	Description	Type	Required	Default
`api_version`	V1	Path	Yes	
`jobType`	PIPELINE	JSON payload	Yes	

Table 15-7 (Cont.) Parameters

Name	Description	Type	Required	Default
`jobName`	The Pipeline code defined for the Pipeline in Data Integration. The code can contain up to 20 characters and can contain alphanumeric characters, dashes and underscore characters. This code cannot be updated after a Pipeline is created.	JSON payload	Yes	
`variables`	Name of the variable(s) used in the Pipeline. The list depends on how many variables have been defined in the Pipeline. The default out-of-box variables include: • STARTPERIOD • ENDPERIOD • IMPORTMODE • EXPORTMODE • ATTACH_LOGS • SEND_MAIL • SEND_TO	JSON payload	No	
`STARTPERIOD`	The first period for which data is to be loaded. This period name must be defined in Data Integration Period mapping. You can also specify a Planning substitution variable whereby a substitution variable can be specified instead of the actual Year/Month member names for the start period. The convention is {Month#&CurYr} {&FcstMonth#&CurYr}; for example, {Jan#&CurYr} {&FcstMonth#&CurYr}. A combination of both actual member names as well as substitution variables is supported. This parameter is supported in the Planning, Tax Reporting, and Financial Consolidation and Close business processes. It is functional for both your service applications and cloud deployments derived from on-premises data sources.		Yes	

Table 15-7 (Cont.) Parameters

Name	Description	Type	Required	Default
ENDPERIOD	The last period for which data is to be loaded. This period name must be defined in Data Integration period mapping. You can also specify a Planning substitution variable whereby a substitution variable can be specified instead of the actual Year/Month member names for the start period. The convention is {Month#&CurYr} {&FcstMonth#&CurYr}; for example, {Jan#&CurYr} {&FcstMonth#&CurYr}. A combination of both actual member names as well as substitution variables is supported. This parameter is supported in the Planning, Tax Reporting, and Financial Consolidation and Close business processes. It is functional for both your service applications and cloud deployments derived from on-premises data sources.	JSON payload	Yes	
IMPORTMODE	Determines how the data is imported into Data Integration. Acceptable values are: • Append—Add to the existing POV data in Data Integration. • Replace—Delete the POV data and replace it with the data from the file. • Map and Validate—Skip importing the data, but re-process the data with updated Mappings and Logic Accounts. • No Import—Skip data import into Data Integration staging table.		Yes	

Table 15-7 (Cont.) Parameters

Name	Description	Type	Required	Default
exportMode	Determines how the data is exported into Data Integration. Acceptable values for Planning business processes are: • Merge—Merge the data in the Data Integration staging table with the existing Planning data. • Replace—Clear the POV data and replace it with data in the Data Integration staging table. The data is cleared for Scenario, Version, Year, Period, and Entity dimensions. • Accumulate—Add the data in the Data Integration staging table to Planning. • No Export—Skip data export from Data Integration to Planning. Acceptable values for Financial Consolidation and Close and Tax Reporting are: • Merge—Merge the data in the staging table with the data in the Financial Consolidation and Close and Tax Reporting application. If data already exists in the application, the system overwrites the existing data with the new data from the load file. If data does not exist, the new data is created. • Replace—Delete the POV data and replace it with the data from the file. • No Export—Skip the data export from Data Integration to Financial Consolidation and Close or Tax Reporting		Yes	
ATTACH_LOGS	• Yes—Logs are zipped and included as an attachment to an email, which can then be download • No—Logs are not included as an attachment to an email.		No	
SEND_MAIL	Determines when an email is sent when a Pipeline is run. Options include: • Always • No—Default value • On Failure • On Success For variables, the default value is set in the Pipeline definition. Overriding individual variables is done by passing it in the JSON payload, for example, STARTPERIOD.			
SEND_TO	Determines the recipient email ID for the email notification. Email IDs are comma separated.		No	

Import Data Mapping

Member mappings are used to derive the target members for each dimension based on source value. Member mappings are referenced during the data load, enabling Data Integration to determine how to dimensionalize the data that is loaded to the target application. Member mappings define relationships between source members and target dimension members within a single dimension. You must create a member mapping for each target dimension.

You can import member mappings from a selected Excel, .CSV or .TXT file. You can also create new mappings in a text file and import them. Import member mappings support merge or replace modes, along with validate or no validate options for target members.

REST Resource

`POST /aif/rest/{api_version}/jobs`

Required Roles

Service Administrator, Power User

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 15-8 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with, such as V1	Path	Yes	None
`jobType`	The job type, `MAPPINGIMPORT`	Path	Yes	None
`jobName`	The dimension name for a specific dimension to import, such as `ACCOUNT`, or `ALL` to import all dimensions	Path	Yes	None
`fileName`	The file and path from which to import mappings. The file format can be .CSV, .TXT, .XLS, or .XLSX. The file must be uploaded prior to importing, either to the inbox or to a sub-directory of the inbox. Include the inbox in the file path, for example,`inbox/BESSAPPJan-06.csv`	Path	Yes	None
`importMode`	The import mode: `MERGE` to add new rules or replace existing rules, or `REPLACE` to clear prior mapping rules before import	Path	No	`MERGE`

Table 15-8 (Cont.) Parameters

Name	Description	Type	Required	Default
validationMode	Whether to use validation mode, true or false An entry of true validates the target members against the target application; false loads the mapping file without any validations. Note that the validation process is resource intensive and takes longer than the validation mode of false; the option selected by most customers is false	Path	No	false
locationName	The Data Integration location where the mapping rules should be loaded; mapping rules are specific to a location in Data Integration.	Path	No	None

Example of Request Body

The following shows an example of the request body in JSON format.

```
{
"jobType":"MAPPINGIMPORT",
"jobName":"ACCOUNT"
"fileName":"inbox/BESSAPPJan-06.csv",
"importMode":"MERGE",
"validationMode":"false",
"locationName":"BESSAPP"
}
```

For sample code, see the code samples included in Running Data Rules in Data Management.

Response

The following table summarizes the response parameters.

Table 15-9 Parameters

Name	Description
jobId	The process ID generated in Data Management for the job, such as 1880
jobStatus	The job status, such as RUNNING
logFileName	Log file containing entries for this execution, such as outbox/logs/BESSAPP-DB_1880.log
outputFileName	Name of the output file generated, if any, or else null
processType	Type of process executed, IMPORT_MAPPING
executedBy	Login name of the user used to execute the rule, such as admin

Table 15-9 (Cont.) Parameters

Name	Description
details	Returns the exception stack trace in case of an application error, or null

Supported Media Types: application/json

Parameters

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"links":
[
0]
"status":"-1"
"details":"null"
"jobId":"1880"
"jobStatus":"RUNNING",
"logFileName":"outbox/logs/BESSAPP-DB_1880.log",
"outputFileName":"null",
"processType":"IMPORT_MAPPING",
"executedBy":"admin"
}
```

For sample code, see the code samples included in Running Data Rules in Data Management.

Export Data Mapping

Member mappings are used to derive the target members for each dimension based on source value. Member mappings are referenced during the data load, enabling Data Integration to determine how to dimensionalize the data that is loaded to the target application. Member mappings define relationships between source members and target dimension members within a single dimension. You must create a member mapping for each target dimension.

You can export member mappings to a selected file of format .csv, .txt, .xls, or .xlsx.

REST Resource

```
POST /aif/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User

Request

Supported Media Types: application/json

The following table summarizes the client request.

Table 15-10 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are working with, such as V1	Path	Yes	None
jobType	The job type, MAPPINGEXPORT	Path	Yes	None
jobName	The dimension name for a specific dimension to import, such as ACCOUNT, or ALL to import all dimensions	Path	Yes	None
fileName	The file and path from which to export mappings. The file format can be .CSV, .TXT, .XLS, or .XLSX. Include the outbox in the file path, for example, outbox/BESSAPPJan-06.csv	Path	Yes	None
locationName	The name of the location, such as BESSAPP	Path	Yes	None

Example of Request Body

The following shows an example of the request body in JSON format.

```
{
"jobType":"MAPPINGEXPORT",
"jobName":"ACCOUNT",
"fileName":"outbox/BESSAPPJan-06.csv",
"locationName":"BESSAPP"
}
```

For sample code, see the code samples included in Running Data Rules in Data Management.

Response

The following table summarizes the response parameters.

Table 15-11 Parameters

Name	Description
jobId	The process ID generated in Data Integration for the job, such as 1881
jobStatus	The job status, such as SUCCESS
logFileName	Log file containing entries for this execution, such as outbox/logs/BESSAPP-DB_1881.log
outputFileName	Name of the output file generated, such asoutbox/BESSAPPJan-06.csv
processType	The type of process executed, EXPORT_MAPPING
executedBy	Login name of the user used to execute the rule, such as admin

Table 15-11 (Cont.) Parameters

Name	Description
`details`	Returns the exception stack trace in case of an application error, or else `null`

Supported Media Types: `application/json`

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"links":
[
0]
"status":"0",
"details":"null",
"jobId":"1881",
"jobStatus":"SUCCESS",
"logFileName":"outbox/logs/BESSAPP-DB_1881.log",
"outputFileName":"outbox/BESSAPPJan-06.csv",
"processType":"EXPORT_MAPPING",
"executedBy":"admin"
}
```

For sample code, see the code samples included in Running Data Rules in Data Management.

Export Data Integration

The Export Data Integration API enables you to back up setup and staging data in Data Integration as a snapshot.

REST Resource

`/aif/rest/V1/snapshots`

Required Roles

Service Administrator, Power User

Method

`POST`

Request

Supported Media Types: `application/json`

Sample REST API Payload for Export Data Integration

```
{
    "action":"EXPORT",
    "snapshotType":"ALL",
```

```
    "fileName":"MyBackup.zip",
    "overwriteFile":true
}
```

The following table summarizes the client request.

Table 15-12 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with, such as V1.	Path	Yes	None
`action`	EXPORT	Payload	Yes	None
`snapshottype`	Snapshot type: ALL, ALL_INCREMENTAL, INCREMENTAL, SETUP • ALL—Include all setup and staging data. • ALL_INCREMENTAL—Include only new or changed staging data based on the POV since the last snapshot was exported and include SETUP and all POVs (old and new) in the output file. • INCREMENTAL—Include only new or changed staging data based on the POV since the last snapshot was exported and include only SETUP and new POVs in the output file. • SETUP—Include only setup data.	Payload	Yes	None
`fileName`	Name of the output file in ZIP format. This file is generated in the outbox as: `outbox/<filename>.zip`. If the file doesn't end with a ZIP extension, Data Management appends the ZIP file extension at the end of the file name.	Payload	Yes	None
`overwriteFile`	true/false—Boolean option to specify whether or not to replace the output file specified in the filename parameter. This parameter prevents a user from accidentally overwriting the output file if it already exists by throwing a HTTP 400 error.	Payload	No	false

Response

The following table summarizes the response parameters.

Table 15-13 Parameters

Name	Description
action	Always EXPORT
snapshotType	Name of the snapshot type
jobId	The process ID generated in Data Integration for the job, such as 1880
links	Describes links to other resources and actions applicable on the current resource.
status	Status of the job: -1 = in progress; 0 = success; 1 = error; 2 =cancel pending; 3 = cancelled; 4 = invalid parameter;Integer.MAX_VALUE = unknown

Supported Media Types: `application/json`

The following shows an example of the response in JSON format.

```
{
    "action": "EXPORT",
    "snapshotType": "SETUP",
    "jobId": 423,
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/v1/jobs/jobID",
            "action": "GET"
        }
    ],
    "status": -1
}
```

Import Data Integration

The Import Data Integration API enables you to restore setup and staging data from one environment to another. The system clears the existing data in the target environment and then imports the data from the backup files without merging any operations.

REST Resource

`/aif/rest/V1/snapshots`

Required Roles

Service Administrator, Power User

Method

`POST`

Request

Supported Media Types: `application/json`

Sample REST API Payload for Import Data Integration

```
{

    "action":"IMPORT",
    "fileName":"inbox/MyBackup.zip"
}
```

The following table summarizes the client request.

Table 15-14 Parameters

Name	Description	Type	Required	Default
`action`	IMPORT	Payload	Yes	None
`filename`	File name of the import snapshot (for example: `inbox/<filename>.zip`, or `inbox/mybackup/<filename>.zip`). If no path is specified, it is assumed that the file is in the Data Integration root folder. (Files to the Data Integration root folder can only be uploaded from the Data Integration user interface.)	Payload	Yes	None

Response

The following table summarizes the response parameters.

Table 15-15 Parameters

Name	Description
`action`	Always IMPORT
`jobId`	The process ID generated in Data Integration for an import Data Integration job is "0."
`links`	Describes links to other resources and actions applicable on the current resource.
`status`	Status of the job: -1 = in progress; 0 = success; 1 = error; 2 =cancel pending; 3 = cancelled; 4 = invalid parameter;Integer.MAX_VALUE = unknown

Supported Media Types: `application/json`

The following shows an example of the response in JSON format.

```
{

    "action": "IMPORT",
    "jobId": 0,
    "links": [
        {
```

```
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/v1/jobs/jobID",
            "action": "GET"

        }

    ],

    "status": -1

}
```

16

Data Management REST APIs

Use the Data Management REST APIs to run data rules and batch rules.

> **Note:**
>
> All REST APIs used for Data Integration can be used as REST APIs for Data Management.

URL Structure for Data Management

URL Structure

Use the following URL structure to access the Data Management REST resources:

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/{api_version}/
{path)
```

Where:

api_version—API version you are developing with. The current REST API version for Data Management is V1.

path—Identifies the resource

Getting API Versions for Data Management APIs

You can manage versions using the set of REST resources summarized in the following table.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 16-1 Manage Versions of Data Management APIs

Task	Request	REST Resource
Getting API Versions for Data Management APIs	GET	`/aif/rest/`
Get Information about a Specific API Version for Data Management APIs	GET	`/aif/rest/{apiVersion}`

Get API Versions for Data Management APIs

Returns information about which versions are available and supported. Multiple versions might be supported simultaneously.

> **Note:**
>
> An API version is always supported even when deprecated.

REST Resource

```
GET /aif/rest/
```

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 16-2 Parameters

Name	Description
`items`	Detailed information about the API
`version`	The version, such as V1
`lifecycle`	Possible values: active, deprecated
`isLatest`	Whether this resource is the latest, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"items": [1]
{
"version": "V1"
"isLatest": "true"
"lifecycle": "active"
"links": [3]
{
   "rel": "self"
```

```
   "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/"
   "action": "GET"
   },{
   "rel": "canonical"
   "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/"
   "action": "GET"
   },{
   "rel": "current"
   "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/V1"
   "action": "GET"
   }
}
}
```

Get Information about a Specific API Version for Data Management APIs

Returns details for a specific REST API version for Data Management.

REST Resource

`GET /aif/rest/{api_version}`

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 16-3 Parameters

Name	Description
`api_version`	Version of the API you are developing with, such as V1

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 16-4 Parameters

Name	Description
`version`	The version, such as V1
`lifecycle`	Lifecycle of the resource, active or deprecated
`isLatest`	Whether this resource is the latest, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"version": "V1"
"lifecycle": "active"
"isLatest": "true"
"links": [1]{
            "rel": "canonical"
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/V1"
            "action": "GET"
            }
}
```

Running Data Rules in Data Management

Executes a Data Management data load rule based on the start period and end period, and import or export options that you specify.

Prerequisites

- Data Rules: Data load rules define how Integrations load data from a file. You must have predefined data load rules to load data.
- You must have the required privileges to execute a specific data rule.

REST Resource

`POST /aif/rest/{api_version}/jobs`

Required Roles

Service Administrator, Power User

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 16-5 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with, such as V1	Path	Yes	None
`jobType`	should be set to "DATARULE"		Yes	None
`jobName`	The name of a data load rule defined in Data Management. You should enclose the rule name in quotation marks if it contains a space.		Yes	None
`startPeriod`	The first period for which data is to be loaded. This period name must be defined in Data Management period mapping.		Yes	None
`endPeriod`	The last period for which data is to be loaded. This period name must be defined in Data Management period mapping.		Yes	None
`importMode`	Determines how the data is imported into Data Management. Acceptable values are: • APPEND to add to the existing POV data in Data Management • REPLACE to delete the POV data and replace it with the data from the file. • RECALCULATE to skip importing the data, but re-process the data with updated Mappings and Logic Accounts. • NONE to skip data import into Data Management staging table		Yes	None

Table 16-5 (Cont.) Parameters

Name	Description	Type	Required	Default
exportMode	Determines how the data is exported into Data Management. Acceptable values for Planning Modules and Planning are: • STORE_DATA to merge the data in the Data Management staging table with the existing Planning data • ADD_DATA to add the data in the Data Management staging table to Planning • SUBTRACT_DATA to subtract the data in the Data Management staging table from existing Planning data • REPLACE_DATA to clear the POV data and replace it with data in the Data Management staging table. The data is cleared for Scenario, Version, Year, Period, and Entity • NONE to skip data export from Data Management to Planning Acceptable values for Financial Consolidation and Close and Tax Reporting are: • REPLACE to delete the POV data and replace it with the data from the file • MERGE: By default, all data load is processed in the Merge mode. If data already existed in the application, the system overwrites the existing data with the new data from the load file. If data does not exist, the new data will be created. • NONE to skip the data export		Yes	None
fileName	An optional file name. If you do not specify a file name, this API imports the data contained in the file name specified in the load data rule. The data file must already reside in the Inbox prior to data rule execution. Import data files from the EPM INBOX accessible from the Applications-Inbox/Outbox Explorer using a file name. Reference the files in this folder using `#epminbox/<filename>`.		Yes	None

Example URL

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/V1/jobs
```

Example of Request Body

```
{"jobType":"DATARULE",
"jobName":"aso to bso dr",
"startPeriod":"Dec-18",
"endPeriod":"Dec-18",
"importMode":"REPLACE",
"exportMode":"NONE",
"fileName":"#epminbox/TestData.txt"
}
```

Response

Supported Media Types: `application/json`

Table 16-6 Parameters

Name	Description
`status`	Status of the job: -1 = in progress; 0 = success; 1 = error; 2 = cancel pending; 3 = cancelled; 4 = invalid parameter
jobStatus	A text representation of the job status, with one of the following values" RUNNING", "SUCCESS". "FAILED"
jobId	The process ID generated in Data Management for the job
logFileName	Log File containing entries for this execution.
outputFileName	Name of the output file generated, if any.
processType	Type of the process executed. Will contain "COMM_LOAD_BALANCES" for all Data Rule executions
executedBy	Login name of the user used to execute the rule.
details	Returns the exception stack trace in case of an application error

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "jobStatus": "RUNNING"
"jobId": 2019
"logFileName": "\outbox\logs\Account Reconciliation Manager_2019.log"
"outputFileName": null
"processType": "COMM_LOAD_BALANCES"
"executedBy": "admin"
"status": -1
"links": [1]
    0:  {
    "rel": "self"
    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/V1/jobs/2019"
    "action": "GET"
}
"details": null
```

```
}
```

Running Batch Rules

Executes a batch of jobs that have been defined in Data Management .

Prerequisites

- The batch must be defined in Data Management before it can be executed using the REST API.
- You must have the required privileges to execute a specific batch.

REST Resource

```
POST /aif/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 16-7 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with, such as V1	Path	Yes	None
`jobType`	should be set to "BATCH"		Yes	None
`jobName`	The name of a batch defined in Data Management.		Yes	None

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/V1/jobs`

Example of Request Body

```
{"jobType":"BATCH",
"jobName":"BatchDataLoad"
}
```

Response

The following table summarizes the response parameters.

Table 16-8 Parameters

Name	Description
status	Status of the job: -1 = in progress; 0 = success; 1 = error; 2 = cancel pending; 3 = cancelled; 4 = invalid parameter
jobStatus	A text representation of the job status, with one of the following values "RUNNING", "SUCCESS". "FAILED"
jobId	The process Id generated in Data Management for the job
logFileName	Log File containing entries for this execution.
outputFileName	Name of the output file generated, if any.
processType	Type of the process executed. Will contain "COMM_BATCH" for all Data Rule executions
executedBy	Login name of the user used to execute the rule.
details	Returns the exception stack trace in case of an application error

Supported Media Types: `application/json`

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "jobStatus": "SUCCESS"
"jobId": 2016
"logFileName": "\outbox\logs\BATCH1_7595.log"
"outputFileName": null
"processType": "COMM_BATCH"
"executedBy": "admin"
"status": -1
"links": [1]
    0:  {
    "rel": "self"
    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/aif/rest/V1/jobs/2016"
    "action": "GET"
}
"details": null
}
```

For sample code, see the code samples included in Running Data Rules in Data Management.

17

Account Reconciliation APIs

Use the Account Reconciliation REST APIs to get the REST API version, create reconciliations, change period status, import pre-mapped transactions, import profiles, import currency rates, import balances, import pre-mapped balances, monitor reconciliations, and retrieve job status. In Transaction Matching, you can use REST APIs to import pre-mapped transactions, or run auto match.

URL Structure for Account Reconciliation

This topic shows the general URL structure for Account Reconciliation REST APIs..

Use the following URL structure to access the Account Reconciliation REST resources:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
armARCS/rest/{api_version}/{path)
```

Where:

api_version—API version you are developing with. The current REST API version for Account Reconciliation is V1.

path—Identifies the resource

Getting API Versions for Account Reconciliation REST APIs

You can manage versions using the set of REST resources summarized in the following table.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 17-1 Manage Versions of Account Reconciliation APIs

Task	Request	REST Resource
Get API Versions for Account Reconciliation REST APIs	GET	`/armARCS/rest/`
Get Information about a Specific API Version for Account Reconciliation REST APIs	GET	`/armARCS/rest/{apiVersion}`

Get API Versions for Account Reconciliation REST APIs

Returns information about which versions are available and supported. Multiple versions might be supported simultaneously.

> **Note:**
>
> An API version is always supported even when deprecated.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

`GET /armARCS/rest/`

Request

Supported Media Types: `application/json`

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 17-2 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`items`	Version of the API you are developing with
`version`	The version, such as v1
`lifecycle`	Possible values: active, deprecated
`isLatest`	Whether this resource is the latest, true or false
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be self or Job Status. If set to Job Status, you can use the href to get the status of the import operation
`data`	The parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "items": [{
        "isLatest": false,
        "lifecycle": "deprecated",
        "version": "v1",
        "links": [{
             "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1",
            "rel": "canonical"
        }, {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1",
            "rel": "successor-version"
        }]
    }, {
        "isLatest": true,
        "lifecycle": "active",
        "version": "v1",
        "links": [{
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1",
            "rel": "canonical"
        }, {
            "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1",
            "rel": "predecessor-version"
        }]
    }],
    "links": [{
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1",
        "rel": "canonical"
    }, {
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1",
        "rel": "current"
    }]
}
```

Get Information about a Specific API Version for Account Reconciliation REST APIs

Returns details for a specific REST API version for Account Reconciliation.

REST Resource

```
GET /armARCS/rest/{api_version}
```

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 17-3 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, such as V1	Path	Yes	None

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 17-4 Parameters

Name	Description
`version`	The version, such as v1
`lifecycle`	Possible values: active, deprecated
`isLatest`	Whether this resource is the latest, true or false
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	The parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"version": "v1",
"lifecycle": "active",
"isLatest": true,
"links": [{
"rel": "canonical",
"href": "https://<SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1",
}, {
"rel": "predecessor-version",
"href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1",
}]
}
```

Execute a Job in Account Reconciliation

Use this resource to execute a job by providing the job name and type.

The job is expected to be defined in Account Reconciliation with all the required parameters saved with the job definition. For some job types, the parameters can be either provided or overwritten at runtime.

Reconciliation Compliance Supported Job Types:

- CREATE_RECONCILIATIONS
- SET_PERIOD_STATUS
- IMPORT_PREMAPPED_TRANSACTIONS
- IMPORT_PREMAPPED_PROFILES
- IMPORT_RATES
- IMPORT_BALANCES
- MONITOR_RECONCILIATIONS
- IMPORT_PREMAPPED_BALANCES

Transaction Matching Supported Job Types:

- IMPORTTMPREMAPPEDTRANSACTIONS
- RUNAUTOMATCH

This topic describes general information for executing a job. Details for each job type are described in separate topics for individual jobs.

REST Resource

POST `/armARCS/rest/{api_version}/jobs`

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

This table summarizes the request parameters that are generic to all jobs. The following tables describe parameters specific to individual rules.

Table 17-5 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs`

Response

Supported Media Types: `application/json`

Parameters

This table summarizes the response parameters that are generic to all jobs. The following tables describe parameters specific to individual rules.

Table 17-6 Parameters

Name	Description
`jobName`	The name of the job, such as Create Reconciliations
`period`	The name of period, such as `July2016`
	Note: For monitor_reconciliations, the parameter is `periodName`.
`filter`	The name of filter, such as `MyFilter`
	Note: For monitor_reconciliations, the parameter is `filterName`.

Retrieve Periods with a Specific Status

Retrieves a list of periods based on the specified status.

REST Resource

```
GET       /armARCS/rest/periods?status={status}
```

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this API.

Table 17-7 GET PERIODS

Name	Description	Required	Type
`status`	Status of the periods to be retrieved. The value can be one of the following: • OPEN - All open periods • CLOSED - All closed periods • LOCKED - All locked periods • PENDING - All pending periods • OPEN_PENDING - All open or pending periods • ALL - All periods	Yes	Query

Example URLs

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
armARCS/rest/periods?status=ALL
```

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
armARCS/rest/periods?status=OPEN_PENDING
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-8 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	Status of the request. See Migration Status Codes.
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type

items	List of periods with the specified status. The format is:
	
	{
	"Status": <status code>,
	"Id": <internal period ID>,
	"Name": <name of the period>
	}
	
	The status code can be one of the following:
	• 51 - PENDING
	• 52 - OPEN
	• 53 - CLOSED
	• 54 - LOCKED

Example of Response Body

The following is an example of the response body, in JSON format.

```
{
  "type": "ARCS",
  "items": [
    {
      "Status": "53",
      "Id": "100000000135004",
      "Name": "January 2022"
    },
    {
      "Status": "53",
      "Id": "100000000135007",
      "Name": "February 2022"
    },
    {
      "Status": "53",
      "Id": "100000000135009",
      "Name": "March 2022"
    },
    {
      "Status": "53",
      "Id": "100000000135011",
      "Name": "April 2022"
    }
  ],
  "status": 0,
```

```
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/periods",
      "action": "GET"
    }
  ]
}
```

Change Period Status (Reconciliation Compliance)

Changes the status of a period (open, closed, pending, locked) and returns the success or failure status.

When a period's status is changed to Open, the returned job corresponds to the opening of reconciliations for the specified period. The job's success or failure does not impact the period's status because this change is made immediately. Even if there are failures while reopening reconciliations, the period status still remains Open.

If a period's status is set to Closed or Locked, no job is returned.

REST Resource

```
POST       /armARCS/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-9 SET PERIOD STATUS

Name	Description	Required
`api_version`	Version of the API you are working with, such as v1	Yes
`jobName`	The name of a job, SET_PERIOD_STATUS	Yes
`period`	The name of the period, such as July2016	Yes
`status`	Status to be changed; supported values: pending, open, closed, locked	Yes

Example of request body

```
{
 "jobName" : "SET_PERIOD_STATUS",
 "parameters": {
                                "period":"July2016",
                                "status":"closed"
                                }
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-10 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes. When the period's status is changed to Open, the status of the job that opens reconciliations for the specified period is sent as additional information. Use this additional information to check the status of the open reconciliations job.
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "type": "ARCS",
  "status": -1,
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
jobs/2141",
      "action": "GET"
    }
  ]
}
```

Create Reconciliation (Reconciliation Compliance)

Copies all selected profiles to a period and returns success or failure status.

REST Resource

```
POST       /armARCS/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job. For additional parameters that are common to all jobs, see Execute a Job.

Table 17-11 RULES

Name	Description	Required	Default
`api_version`	Version of the API you are working with, such as v1.	Yes	None
`jobName`	The name of a job, CREATE_RECONCILIATIONS.	Yes	None
`period`	The name of the period, such as July2016	Yes	None
`filter`	The name of filter, such as MyFilter	No	None

Example of request body

```
{
 "jobName" : "CREATE_RECONCILIATIONS",
 "parameters": {
                                "period":"July2016",
                                 "filter":"MyFilter"
                                 }
}
```

Response

Parameters:

Table 17-12 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "type": "ARCS",
  "status": -1,
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
jobs/2141",
      "action": "GET"
    }
  ]
}
```

Import Pre-Mapped Balances (Reconciliation Compliance)

Imports pre-mapped balances and returns the success or failure status.

REST Resource

```
POST       /armARCS/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-13 IMPORT_PREMAPPED_BALANCES

Name	Description	Required
api_version	Version of the API you are working with, such as v1	Yes
jobName	The name of a job, IMPORT_PREMAPPED_BALANCES	Yes
period	The name of the period, such as July2016	Yes
balanceType	Supported balance types are SRC for source system balance, and SUB for subsystem balance	Yes
currencyBucket	Currency bucket such as Functional	Yes
file	Name of the import file, such as balances.csv	Yes

Example of request body

```
{
 "jobName" : "IMPORT_PREMAPPED_BALANCES",
 "parameters": {
                              "period":"July2016",
                              "balanceType":"SRC",
                              "file":"balances.csv",
                              "currencyBucket":"Functional"
                               }
}
```

Response

Supported Media Types: application/json

Parameters:

Table 17-14 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "type": "ARCS",
```

```
  "status": -1,
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
jobs/2141",
      "action":"GET"
    }
  ]
}
```

Import Pre-Mapped Transactions (Reconciliation Compliance)

Imports pre-mapped transactions for a particular period and returns the success or failure status.

REST Resource

```
POST       /armARCS/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-15 IMPORT_PREMAPPED_TRANSACTIONS

Name	Description	Required
`api_version`	Version of the API you are working with, such as v1	Yes
`jobName`	The name of a job, IMPORT_PREMAPPED_TRANSACTIONS	Yes

Table 17-15 (Cont.) IMPORT_PREMAPPED_TRANSACTIONS

Name	Description	Required
transactionType	Transaction Type is one of the following: • BEX for loading Balance Explanations • SRC for loading Source System Adjustments • SUB for loading Subsystem Adjustments • VEX for loading Variance Explanations	Yes
file	The file name, such as transactions.csv	
dateFormat	Date Format, such as DD/MM/YYYY, MMM d, yyyy, or All	Yes

Example of request body

```
{
 "jobName" : "IMPORT_PREMAPPED_TRANSACTIONS",
 "parameters": {
                                "period":"July2016",
                                "transactionType":"SRC",
                                "file":"transactions.csv",
                                "dateFormat": "MMM d,yyyy"
                                }
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-16 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

TESTINGINGING:

```
{ "type": "ARCS", "status": -1, "details": "In Process", "links": [ { "rel":
"self", "href": "https://<SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs/
2141", "action": "GET" } ], "error": null, "items": null, "link": null }
```

The following is an example of the response body in JSON format.

```
{
  "type": "ARCS",
  "status": -1,
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
jobs/2141",
      "action": "GET"
    }
  ]
}
```

Import Balances (Reconciliation Compliance)

Imports balances data using Data Management from a previously created Data Load definition, and returns success or failure status.

When using Data Management, if a data load rule fails, the Account Reconciliation log file includes a message such as the following:

```
Dataload process failed for process {JOB_ID}. Check the Data
Management log for more details.
Data Management log file name: {LOG_FILE_NAME}
Detailed error from Data Management process: {DETAILS}
```

Refer to the Data Management log file to understand the reason for the job failure. If multiple data load rules fail, a separate log is created for each data load rule.

REST Resource

```
POST       /armARCS/rest/{api_version}/jobs/
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 17-17 IMPORT_BALANCES

Name	Description	Path	Required
api_version	Version of the API you are working with, such as v1	Yes	Yes
jobName	The name of the job, IMPORT_BALANCES	No	Yes
period	The name of the period, such as April 2016	No	Yes
dl_Definition	The name of a previously saved data load using the format DL_*name*.	No	Yes

Example of request body

```
{
  "jobName" : "IMPORT_BALANCES",
               "parameters": {
                              "period":"April 2016",
                              "dl_Definition":"DL_test"
                               }
}
```

Response

Supported Media Types: application/json

Parameters:

Table 17-18 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to the API call
action	The HTTP call type
rel	Relationship type (self, Job Status). if set to Job Status, you can use the href to get the status of the operation
data	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
"type": "ARCS",
"status": -1,
"details": "In Process",
"links": [
{
```

```
"rel": "self",
"href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
jobs/2141
"action": "GET"
}
]
}
```

Import Profiles (Reconciliation Compliance)

Imports profiles for a particular period and returns the success or failure status.

REST Resource

```
POST       /armARCS/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-19 IMPORT_PROFILES

Name	Description	Required
`api_version`	Version of the API you are working with, such as v1	Yes
`jobName`	The name of a job, `IMPORT_PROFILES`	Yes
`importType`	The import type; supported values are `Replace` and `ReplaceAll`	Yes
`period`	The period for which to import, such as `July2016`	
`profileType`	The profile type; supported values are `Profiles` and `Children`	Yes
`fileLocation`	The file name, such as `profiles.csv`	Yes
`dateFormat`	Date Format, such as `DD/MM/YYYY`, `MMM d, yyyy` or `All`	Yes

Example of request body

```
{
"jobName" : "IMPORT_PROFILES",
             "parameters": {
                              "period":"July2016",
                                    "importType":"Replace",
                                    "fileLocation":"profiles.csv",
                                    "dateFormat": "MMM d,yyyy"
                                     }
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-20 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "type": "ARCS",
  "status": -1,
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs/
2141",
      "action": "GET"
    }
  ]
}
```

Import Rates (Reconciliation Compliance)

Imports rates for a particular period and rate type, and returns the success or failure status.

REST Resource

```
POST       /armARCS/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-21 IMPORT_RATES

Name	Description	Required
`api_version`	Version of the API you are working with, such as v1	Yes
`jobName`	The name of a job, `IMPORT_RATES`	Yes
`period`	The name of the period, such as `July2016`	Yes
`rateType`	The rate type, such as `Accounting`	Yes
`file`	Name of the import file, such as `rates.csv`	Yes
`importType`	Supported import types are `Replace` and `ReplaceAll`	Yes

Example of request body

```
{
 "jobName" : "IMPORT_RATES",
 "parameters": {
                                "period":"July2016",
                                 "rateType":"Accounting",
                                  "file":"rates.csv",
                                  "importType":"ReplaceAll"
                                 }
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-22 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "type": "ARCS",
  "status": -1,
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs/
2141",
      "action": "GET"
    }
  ]
}
```

Import Pre-Mapped Transactions (Transaction Matching)

Imports a file of pre-mapped transactions into Transaction Matching, and returns the success or failure status.

REST Resource

```
POST       /arm/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-23 IMPORTTMPREMAPPEDTRANSACTIONS

Name	Description	Required
`api_version`	Version of the API you are working with, such as v1	Yes
`jobName`	The name of a job, IMPORT_PREMAPPED_TRANSACTIONS	Yes
`dataSource`	Text ID of the data source where the transaction will be imported to	
`file`	The file name, such as `transactions.csv`	
`reconciliationType`	Text ID of the reconciliation type where the transaction file will be imported to	Yes
`dateFormat`	Date Format is a parameter that includes the format of the date fields in the transactions import file. The default is `DD/MM/YYYY`. Other supported date formats are `MM/dd/yyyy`, `dd/MM/yyyy`, `MM-dd-yyyy`, `d-M-yyyy`, and `MMM d.yyyy`.	Yes

Example of request body

```
{
 "jobName" : "importtmpremappedtransactions",
 "parameters": {
                                "dataSource":"CLEARING",
                                "reconciliationType":"CLEARING",
                                "file":"clearingTransaction.csv",
                                "dateFormat": "MM-DD-YYYY"
                                }
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-24 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes

Table 17-24 (Cont.) Parameters

Name	Description
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "type": "TM",
  "status": -1,
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs/
2141",
      "action": "GET"
    }
  ]
}
```

Import Attribute Values

Imports attribute values into an existing list attribute or group attribute. In Transaction Matching, you can only import group attributes.

REST Resource

POST `/armARCS/rest/{api_version}/jobs`

Required Roles

Service Administrator, Power User

Users with Power User predefined role may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 17-25 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with: v1	Path	Yes	None
`jobname`	The name of the job, `IMPORT_ATTRIBUTE_VALUES`	Payload	Yes	None
`importType`	The import type. Supported values are `Replace`, `Replace All`, and `Update`.	Payload	No	Replace
`fileLocation`	The file name containing the values to be imported; example: `StoreData.csv`	Payload	Yes	None
`dateFormat`	Format of date fields in the import file. Supported date formats are as follows: • d MMM, yyyy • MMM d, yyyy • MM/dd/yyyy • dd/MM/yyyy • MM-dd-yyyy • d-M-yyyy • dd-MMM-yy • dd-MMM-yyyy	Payload	No	dd-MMM-yyyy
`attribute`	The name of the list attribute or group attribute into which values must be imported.	Payload	Yes	None
`module`	The name of the module. Supported values are: RC for Reconciliation Compliance and TM for Transaction Matching.	Payload	Yes	None

Example of Request Body

```
{
"jobName" : "IMPORT_ATTRIBUTE_VALUES",
"parameters": {
"attribute":"Store",
"importType":"Replace",
"fileLocation":"StoreData.csv",
"dateFormat": "MMM d,yyyy",
"module": "RC"}
}
```

Response

Parameters

The following table summarizes the response parameters.

Table 17-26 Parameters

Name	Description
`type`	The application type

Table 17-26 (Cont.) Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Relationship type

Supported Media Types: application/json

Example of Response Body

```
{
"type": "ARCS",
"status": -1,
"details": "In Process",
"links": [
{
"rel": "self",
"href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/oraclecloud.com/arm/rest/
fcmapi/v1/RC/job/2141",
"action": "GET"
}
]
}
```

Monitor Reconciliations (Reconciliation Compliance)

Returns the list of reconciliations for a given period name and filter name.

> **Note:**
>
> - If the Reconciliation status for all the Reconciliations in the given Period Name and Filter Name were closed, then the output status would be '0'.
> - If the Reconciliations status for any one of the Reconciliations in the given Period Name and Filter Name is open, then the output status would be '-1'.

REST Resource

```
POST       /armARCS/rest/{api_version}/jobs/
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 17-27 MONITOR_RECONCILIATIONS

Name	Description	Path	Required
`api_version`	Version of the API you are working with, such as v1	Yes	Yes
`jobName`	The name of the job, `MONITOR_RECONCILIATIONS`	No	Yes
`periodName`	The name of the period, such as September 2017	No	Yes
`filterName`	The name of the filter. For example, `Recon status filter`.	No	Yes

Example of request body

```
{
 "parameters":
{"periodName":"September 2017","filterName":"DemoFilter"},
"jobName":"MONITOR_RECONCILIATIONS"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-28 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to the API call
`action`	The HTTP call type
`rel`	Relationship type (`self`, `Job Status`). if set to `Job Status`, you can use the `href` to get the status of the operation
`data`	Parameters as key value pairs passed in the request

Examples of Response Body

The following is an example of the response body in JSON format when all reconciliations are closed:

```
{
"error":null,
"details":"Account ID : 100-1210, Name : Accounts Receivable, Status :
Closed",
"items":null,
"status":0,
"link":null,
"links":[{"action":"GET","rel":"self","href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs/
monitorReconciliations/September%202017/DemoFilter"}],
"type":"ARCS"
}
```

The following is an example of the response body in JSON format when any reconciliation status is open:

```
{
"error":null,
"details":"Account ID : 100-1210, Name : Accounts Receivable, Status : Open",
"items":null,
"status":-1,
"link":null,
"links":[{"action":"GET","rel":"self","href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/jobs/
monitorReconciliations/September%202017/DemoFilter"}],
"type":"ARCS"
}
```

Import Reconciliation Attributes (Reconciliation Compliance)

Performs flat file loads of attribute values into existing reconciliations.

REST Resource

```
POST       /armARCS/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-29 Import Reconciliation Attributes

Name	Description	Required
api_version	Version of the API you are working with, such as v1	Yes
jobName	The name of a job, IMPORT_RECONCILIATION_ATTRIBUTES	Yes
fileName	The name of the upload import file	Yes
period	The name of the period, such as July2020	Yes
rules	The rules to run upon completion. Allowed values are: • ALL • SET_ATTR_VAL(Set Attribute Value) • CRT_ALT (Create Alert) • AUTO_APP(Auto Approve Reconciliation) • AUTO_SUB(Auto Submit Reconciliation) You can send multiple values separated by comma. Default is None.	No
reopen	Indicates whether to reopen changed reconciliations upon completion. Values is either true or false (default).	No
dateFormat	List of valid date formats, such asDD/MM/YYYY. You can send multiple values separated by semi-colon.	No

Here are some examples of the request body:

Example 1

```
{
    "jobName" : "IMPORT_RECONCILIATION_ATTRIBUTES",
    "parameters":
        {
         "fileName":"import_recon.csv",
         "period":"January 2010",
         "rules":"AUTO_APP,AUTO_SUB",
         "reopen":"true",
         "dateformat":"MM-dd-yyyy;MMM d, yyyy"
        }
}
```

Example 2

```
{
    "jobName" : "IMPORT_RECONCILIATION_ATTRIBUTES",
    "parameters":
        {
```

```
         "fileName":"Reconciliations.csv",
         "period":"June 2019",
         "rules":"AUTO_APP,AUTO_SUB",
         "reopen":"true"
        }
}
```

Example 3

```
{
    "jobName" : "IMPORT_RECONCILIATION_ATTRIBUTES",
    "parameters":
        {
         "fileName":"import_recon.csv",
         "period":"January 2010",
         "rules":"ALL",
         "reopen":"true"
        }
}
```

Example 4

```
{
    "jobName" : "IMPORT_RECONCILIATION_ATTRIBUTES",
    "parameters":
        {
         "fileName":"Reconciliations.csv",
         "period":"June 2019"
        }
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-30 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	• -1 = In Progress • 0 = Success • 1 = Fail
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type. Can be self and/or Job Status. If set to Job Status, you can use the href to get the status of the import operation.

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "type": "ARCS",
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
jobs/100000001155018",
            "action": "GET"
        }
    ],
    "details": "In Process",
    "status": -1
}
```

Run Auto Match (Transaction Matching)

Runs the auto match process in Transaction Matching.

REST Resource

```
POST       /arm/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-31 runautomatch

Name	Description	Required
`api_version`	Version of the API you are working with, such as v1	Yes
`jobName`	The name of a job, runautomatch	Yes
`ReconTypeId`	The Text ID of the Reconciliation type to be auto matched	Yes

Example of request body

```
{"jobName":"runautomatch",
"parameters":{"reconTypeId":"INTERCO"}}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-32 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "type": "TM",
  "status": -1,
  "details": "In Process",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/v1/jobs/2141",
      "action": "GET"
    }
  ],
  "error": null,
  "items": null,
  "link": null
}
```

Purge Transactions (Transaction Matching)

Removes matched transactions for Account Reconciliation using the provided parameters.

You can specify `filterOperator` and `filterValue` to further filter the matched transactions. Otherwise, all matched transactions older than or equal to the age from all accounts for the specified `matchType` are purged.

REST Resource

```
POST       /arm/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, User, Viewer

Users with Power User, User, and Viewer predefined roles may require additional application roles.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-33 Parameters

Name	Description	Type	Required	Values
`api_version`	Version of the API you are working with, such as v1	Path	Yes	v1
`jobName`	The name of a job	Payload	Yes	`purgetransactions`
`ReconTypeId`	The identifier (TextID) of the match type from which matched transactions should be deleted	Payload	Yes	Example: `CLEARING`
`matchedStatus`	The status of the transactions to be deleted. The only value currently supported is `matched`.	Payload	No	Default value: `matched`
`age`	Identifies the number of days since the transaction was matched. Matched transactions older than or equal to this value will be deleted.	Payload	Yes	Example: 180

Table 17-33 (Cont.) Parameters

Name	Description	Type	Required	Values

`filterOperator`	Optionally, use one of the following filter conditions to identify the accounts containing matched transactions for deletion. This value is combined with the `filterValue` to identify the accounts from which matched transactions should be purged:
	• `EQUALS`
	• `NOT_EQUALS`
	• `STARTS_WITH`
	• `ENDS_WITH`
	• `CONTAINS`
	• `NOT_CONTAINS`
		Payload	No	Examples:
				`EQUALS`
				`Starts_With`

`filterValue`	Optionally use one or more filter values to identify the transactions to purge. Use a space-separated list to specify multiple values as shown in the examples. If multiple values are specified, transactions from accounts matching any filter operator and filter value combination are selected for purging.
	`EQUALS` and `NOT_EQUALS` support multiple values.
	`STARTS_WITH`, `ENDS_WITH`, `CONTAINS`, and `NOT_CONTAINS` only support a single value.
		Payload	No	Examples:
				`["101-1234","102-1234"]`
				`["102"]`

`logFileName`	Optionally, enter the name of a log file to record information about the API activity.	Payload	No	If a file name is not specified, a log file named `PurgeTransactions_Job_ID` is automatically generated. The file is located in the Outbox.

Example of request body

Example of purging matched transactions 120 days or older for `CLEARING` match type and accounts equal to 101-1234 and 102-1234:

```
{
    "jobName" : "purgetransactions",
    "parameters":
                {
                   "reconTypeId" : "CLEARING",
                   "age" : 120,
                      "filterOperator":"EQUALS",
                              "filterValue" : ["101-1234","102-1234"],
                              "logFileName" : "purge-clearing"
                }
}
```

Example of purging matched transactions 120 days or older for `CLEARING` match type and accounts start with 101:

```
{
    "jobName" : "purgetransactions",
    "parameters":
                {
                   "reconTypeId" : "CLEARING",
                   "age" : 120,
                      "filterOperator":"STARTS_WITH",
                              "filterValue" : ["101"],
                              "logFileName" : "purge-clearing"
                }
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-34 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "type": "TM",
  "status": -1,
  "details": "In Process",
  "links": [
    {
      "rel": "self",
"href":"https://
<SERVICE_NAME><TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/v1/
jobs/2141",
      "action": "GET"
    }
  ],
  "error": null,
  "items": null,
  "link": null
}
```

Retrieve Job Status (Reconciliation Compliance)

Returns the status of a job for Reconciliation Compliance, indicating if the job is in process, or if it is successfully executed or completed with errors.

REST Resource

GET `/armARCS/rest/{api_version}/jobs/{job_id}`

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 17-35 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with: v1	Path	Yes	None
`jobIdentifier`	The ID of the job	Path	Yes	None

Response

Parameters

The following table summarizes the response parameters.

Table 17-36 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Supported Media Types: application/json

Example of Response Body

```
{
  "type": "ARCS",
  "status": 0,
  "details": "Total to copy : 3\nSuccessfully copied :
2\nUnsuccessfully copied : 1\n",
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
jobs/91",
      "action": "GET"
    }
  ],
  "error": null,
  "items": null,
  "link": null
}
```

Retrieve Job Status (Transaction Matching)

Returns the status of a job for Transaction Matching, indicating if the job is in process, or if it is successfully executed or completed with errors.

REST Resource

GET /arm/rest/{api_version}/jobs/{job_id}

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: application/json

Parameters

The following table summarizes the client request.

Table 17-37 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with: v1	Path	Yes	None
jobIdentifier	The ID of the job	Path	Yes	None

Response

Parameters

The following table summarizes the response parameters.

Table 17-38 Parameters

Name	Description
details	In case of errors, details are published with the error string
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call or status API
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request
log-content	Link to the log file location. This is applicable to Archive Matched Transactions, Purge Archived Transactions, Purge Transactions (Transaction Matching), Import Pre-Mapped Transactions (Transaction Matching), and Unmatch Matched Transaction (Transaction Matching) jobs.
file-content	Link to the location of the archive file, for Archive Matched Transactions jobs.

Supported Media Types: application/json

Example of Response Body

Example 1: Retrieve job status for an Auto Match job

```
{
    "type": "TM",
    "items": [
        0
    ],
    "error": null,
    "link": null,
    "status": 0,
    "details": "Job Completed. Job ID: 100000003918002",
    "links": [
        {
            "rel": "self",
            "href": https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest//v1/jobs/
```

```
100000003918002,
            "action": "GET",
            "data": null
        }
    ]
}
```

Example 2: Retrieve job status for Archive Matched Transactions (Transaction Matching) job

```
{
    "type": "TM",
    "items": [
        0
    ],
    "error": null,
    "link": null,
    "status": 0,
    "details": "Job Completed. Job ID: 100000003846005 Log file:
Archive_Transactions_Pos2Processor.log\nRe Archive for the Archive Job
ID :: 100000003810002\r\nArchive Transactions for Match Type ::
Pos2Processor\nArchive Transactions on or before :: 2022-02-18
23:59:59 UTC\nArchive Transactions age :: 330\nAccount ID : Equals
'XX-XX-YYYY'\nAccounts considered for Archive : XX-XX-YYYY\n\n Total
Number of Matches present in this archive :: 1479730\nTotal Number of
Transactions Present in this Archive for DataSource - Delivery
Partner :: 1490233\nTotal Number of Transactions Present in this
Archive for DataSource - POS :: 1515718\nTotal Number of Adjustments
Present in this Archive :: 104709\n\nTotal Number of Transactions
Present in this Archive :: 3110660\nTime taken 22 Minute(s) and 02
Second(s) to Archive Transactions.\r\n",
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/v1/jobs/
100000003846005",
            "action": "GET",
            "data": null
        },
        {
            "rel": "log-content",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/rest/
applicationsnapshots/Archive_Transactions_Pos2Processor.log/contents",
            "action": "GET",
            "data": null
        },
        {
            "rel": "file-content",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/rest/
applicationsnapshots/
Archived_Transactions_Pos2Processor_100000003846005.zip/contents",
```

```
            "action": "GET",
            "data": null
        }
    ]
}
```

Example 3: Retrieve job status for Purge Archived Transactions (Transaction Matching) job

```
{
    "type": "TM",
    "items": [
        0
    ],
    "error": null,
    "link": null,
    "status": 0,
    "details": "Job Completed. Job ID: 100000003801002 Log file:
PurgeTransactions_100000003801002.log\nMatch Type: Pos2Processor, Purge for
Archive Job ID: 100000003798009\n\n\nTotal adjustments purged: 0\nTotal
transactions purged from all sources: 0\nTotal matches purged: 0\n\nStatus:
No transactions found for the Archive Transactions job ID. Purge
Transactions might be already run for this Archive job ID.\n\nTotal time
taken: 00 Minute(s) and 00 Second(s)\n",
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest//v1/jobs/
100000003801002",
            "action": "GET",
            "data": null
        },
        {
            "rel": "log-content",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/rest/applicationsnapshots/
PurgeTransactions_100000003801002.log/contents",
            "action": "GET",
            "data": null
        }
    ]
}
```

Export Application Properties

Exports Account Reconciliation application settings (related to Redwood Experience, theme, email notification, and business process name), background image, and logo image to a JSON file so that you can import them into the same or another environment.

This command is useful when you import an application from prod to test environments. If your application settings are different in prod and test environments, you can export them from the test environment before importing the application from the prod environment, and then import the settings in to the test environment to maintain the original settings.

You can download the export file using the Download REST API. This is a synchronous API.

REST Resource

```
POST       /arm/rest/fcmapi/{api_version}/rc/export/
applicationproperties
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-39 EXPORT APPLICATION PROPERTIES

Name	Description	Required	Default
`fileName`	The name of the JSON file that stores the exported property values. Use the Upload API to upload the file to the target environment and then restore these settings in the target environment, as described in Import Application Properties.	Yes	None

Table 17-39 (Cont.) EXPORT APPLICATION PROPERTIES

Name	Description	Required	Default
`properties`	The comma-separated list of properties to be exported. Valid values include the following: • `Theme` exports the display theme used in the environment • `EmailNotification` exports the email notification settings defined in the environment • `DisplayBusinessProcessName` exports whether to display the business process name on the page in the environment • `RedwoodExperience` exports the Redwood Experience setting of the environment • `BackgroundImage` exports the backgound image used in the environment • `LogoImage` exports the logo image used in the environment	No	All valid properties are exported.

Examples of request body

Example 1: Exporting all exportable application properties

```
{
 "fileName": "ApplicationProperties.json"
}
```

Example 2: Exporting specific application properties

```
{
 "fileName": "ApplicationProperties.json",
 "properties":["Theme", "EmailNotification", "DisplayBusinessProcessName",
"RedwoodExperience"]
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-40 Parameters

Name	Description
`details`	In case of errors, details are published with the error string.
`status`	Status of the job: • -1 = In Progress • 0 = Success • 1 = Fail
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type. It can be `self` or `export-content`. If the export succeeds, you can use the `href` to download the exported file.

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "details": "Application properties exported successfully",
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/
fcmapi/v1/rc/export/applicationproperties",
            "action": "POST"
        },
        {
            "rel": "export-content",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
ApplicationProperties.json/contents",
            "action": "GET"
        }
    ],
    "status": 0,
    "type": "RC",
    "link": {},
    "error": null,
    "items": []
}
```

Import Application Properties

Imports Account Reconciliation application settings (related to Redwood Experience, theme, email notification, and business process name), background image, and logo image from an export file into an Account Reconciliation environment.

The export file is available for import after the file is uploaded using the Upload REST API. This a synchronous API.

REST Resource

```
POST       /arm/rest/fcmapi/{api_version}/rc/import/applicationproperties
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-41 IMPORT APPLICATION PROPERTIES

Name	Description	Required	Default
`api_version`	The REST API version for the API. This release is v1.	Yes	v1
`fileName`	The name of the JSON file that contains exported property values from another environment. This file, exported from another environment as described in Export Application Properties, must be available in the environment where you are restoring application settings.	Yes	None

Example of request body

```
{
    "fileName":"applicationProperties.json"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-42 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	Status of the job: • -1 = In Progress • 0 = Success • 1 = Fail

Table 17-42 (Cont.) Parameters

Name	Description
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type. Possible values: `self`.

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "details": "Application properties imported successfully",
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/
fcmapi/v1/rc/import/applicationproperties",
            "action": "POST"
    ],
    "status": 0,
    "type": "RC",
    "link": {},
    "error": null,
    "items": []
}
```

Export Background Image

Exports the background image used in an Account Reconciliation environment to a JPG file so that you can import it into another environment.

You can download the image file using the Download REST API. This is a synchronous API.

REST Resource

```
POST       /arm/rest/fcmapi/{api_version}/rc/export/backgroundImage
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-43 EXPORT BACKGROUND IMAGE

Name	Description	Required	Default
`api_version`	The current REST API version for the API. For example, v1 for this API.	Yes	v1
`fileName`	The name for the background image file in JPG, JPEG, GIF, or PNG format. Use the Upload API to upload the background image file to the target environment and then import it into the target environment, as described in Import Background Image.	Yes	None

Example of request body

```
{
    "fileName":"backgroundImage.jpg"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-44 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	Status of the job: • -1 = In Progress • 0 = Success • 1 = Fail
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type. It can be `self` or `export-content`. If the export succeeds, you can use the `href` to download the exported file.

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "details": "Background Image exported successfully",
    "links": [
        {
            "rel": "self",
```

```
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/
fcmapi/v1/rc/export/backgroundImage",
            "action": "POST"
        },
        {
            "rel": "export-content",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/
11.1.2.3.600/applicationsnapshots/bgImage.jpg/contents",
            "action": "GET"
        }
    ],
    "status": 0,
    "type": "RC",
    "link": {},
    "error": null,
    "items": []
}
```


Import Background Image

Imports the background image from an export file into an Account Reconciliation environment and then sets it as the current background image.

The image will be available for import after you upload the file using the Upload REST API. This is a synchronous API.

REST Resource

```
POST       /arm/rest/fcmapi/{api_version}/rc/import/backgroundImage
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-45 IMPORT BACKGROUND IMAGE

Name	Description	Required	Default
`api_version`	The current REST API version for the API. For example, v1 for this API.	Yes	v1

Table 17-45 (Cont.) IMPORT BACKGROUND IMAGE

Name	Description	Required	Default
`fileName`	The name of the background image file that was exported from another environment. Supported formats include JPG, JPEG, GIF, and PNG.	Yes	None

Example of request body

```
{
    "fileName":"backgroundImage.jpg"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-46 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	Status of the job: • -1 = In Progress • 0 = Success • 1 = Fail
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type. Possible values: `self`.

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "details": "Background image imported successfully.",
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/rc/
import/backgroundImage",
            "action": "POST"
        }
    ],
    "status": 0,
    "type": "RC",
```

```
    "link": {},
    "error": null,
    "items": []
}
```

Export Logo Image

Exports the corporate logo used in an Account Reconciliation business process to a JPG file so that you can import it into another environment.

The exported file can be download using the Download REST API. This is an asynchronous API.

REST Resource

```
POST       /arm/rest/fcmapi/{api_version}/rc/export/logo
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-47 EXPORT LOGO IMAGE

Name	Description	Required	Default
`api_version`	The current REST API version for the API. For example, v1 for this API.	Yes	v1
`fileName`	The name of the logo image file in JPG, JPEG, GIF, or PNG format. Use the Upload API to upload the background image file to the target environment and then import it into the target environment, as described in Import Logo Image.	Yes	None

Example of request body

```
{
    "fileName":"logo.jpg"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-48 Parameters

Name	Description
`details`	In case of errors, details are published with the error string.
`status`	Status of the job: • -1 = In Progress • 0 = Success • 1 = Fail
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type. It can be `self` or `export-content`. If the export succeeds, you can use the `href` to get the status of the import operation.

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/RC/
export/logo",
            "action": "POST"
        },
        {
            "rel": "export-content",
            "href": "<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/
applicationsnapshots/logo.jpg/contents",
            "action": "GET"
        }
    ],
    "details": "Logo image exported successfully.",
    "type": "RC",
    "status": 0,
    "link": {},
    "error": null,
    "items": []
}
```

Import Logo Image

Imports the corporate logo used in an Account Reconciliation environment from an export file into another environment.

The logo is available for import after you upload the image file using the Upload REST API. This is an asynchronous API.

REST Resource

```
POST       /arm/rest/fcmapi/{api_version}/rc/import/logo
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 17-49 IMPORT LOG IMAGE

Name	Description	Required	Default
`api_version`	The current REST API version for the API. For example, v1 for this API.	Yes	v1
`fileName`	The name of the logo image file that contains the image to be imported. Supported formats include JPG, JPEG, GIF, and PNG.	Yes	None

Example of request body

```
{
    "fileName":"logo.jpg"
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 17-50 Parameters

Name	Description
`details`	In case of errors, details are published with the error string.
`status`	Status of the job: • -1 = In Progress • 0 = Success • 1 = Fail
`links`	Detailed information about the link
`href`	Links to API call or status API
`action`	The HTTP call type
`rel`	Relationship type. Possible values: `self`.

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "links": [
        {
            "rel": "self",
            "href": "<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/RC/
import/logo",
            "action": "POST"
        }
    ],
    "details": "Logo image imported successfully.",
    "type": "RC",
    "status": 0,
    "link": {},
    "error": null,
    "items": []
}
```

Working with Connections in Account Reconciliation

Use these REST APIs to work with connections.

With multiple environments, using REST APIs saves you time and effort by automating the process of logging in and configuring connections. For information about accessing environments, see Accessing EPM Cloud.

Table 17-51 Working with Connections in Account Reconciliation

Task	Request	REST Resource
Create a Connection	POST	`/arm/rest/fcmapi/{api_version}/{module}/connections`
View All Connections	GET	`/arm/rest/fcmapi/{api_version}/{module}/connections`
Update a Connection	PUT	`/arm/rest/fcmapi/{api_version}/{module}/connections/{id}`
Delete a Connection	DELETE	`/arm/rest/fcmapi/{api_version}/{module}/connections/{id}`

Create a Connection

Use this REST API to create a connection that will be saved in an application.

REST Resource

`POST /arm/rest/fcmapi/{api_version}/{module}/connections`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request parameters specific to this job.

Table 17-52 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with (must be v1)	Path	Yes	None
`module`	The name of the module for which to create a connection. For Account Reconciliation, set this value to RC.	Path	Yes	None
`url`	The URL of the connection, such as https://<*SERVICE_NAME*>-<*TENANT_NAME*>.<*SERVICE_TYPE*>.<*dcX*>.oraclecloud.com	Payload	Yes	None
`username`	A username with the Service Administrator predefined role	Payload	Yes	None
`password`	The encrypted password for the user For security reasons, only an encrypted password is allowed. Use the EPM Automate encrypt command to generate the encrypted password. See encrypt .	Payload	Yes	None
`type`	The type of connection. Valid values include the following: • ENTERPRISE_JOURNALS - for Enterprise Journals connections • OBJECT_STORAGE - for Object Storage connections	Payload	Yes	None

Example URL

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/rc/
connections
```

Example of Request Body

```
{
    "url": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com",
    "username": "<NEW_USERNAME>",
    "password": "<NEW_PASSWORD>",
    "type" : "ENTERPRISE_JOURNALS"
}
```

Response

Supported Media Type: `application/json`

Table 17-53 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string.

Example of Response Body

```
{
  "details": "Connection created successfully."
}
```

View All Connections

Use this REST API to view details for all of the connections saved in an application.

Required Roles

Service Administrator

REST Resource

`GET /arm/rest/fcmapi/{api_version}/{module}/connections`

Request

Parameters:

The following table summarizes the client request.

Table 17-54 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with (must be v1)	Path	Yes	None
`module`	The name of the module for which to view connections. For Account Reconciliation, set this value to RC.	Path	Yes	None

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/rc/connections`

Response

Supported Media Types: `application/json`

The following table summarizes the parameters.

Table 17-55 Parameters

Parameters	Description
`items`	Collection of information about the resource

Table 17-55 (Cont.) Parameters

Parameters	Description
`id`	Unique identifier for the connection, such as 1c89922d-92ba-46c1-850f-e2a8a416ddf2
`type`	The type of connection
`url`	The URL of the connection, such as https://<*SERVICE_NAME*>-<*TENANT_NAME*>.<*SERVICE_TYPE*>.<*dcX*>.oraclecloud.com
`links`	Detailed information about the link
`details`	In case of errors, details are published with the error string

Example Response

```
{
    "links": [
        {
            "rel": "self",
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/
fcmapi/v1/rc/connections",
            "action": "GET"
        }
    ],
    "details": null,
    "items": [
        {
            "username": "ats_admin2",
            "password": null,
            "url": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com",
            "id": 100000000558005,
            "type": "ENTERPRISE_JOURNALS"
        }
    ]
}
```

Update a Connection

Use this REST API to update a specific connection that is saved in an application.

REST Resource

`PUT /arm/rest/fcmapi/{api_version}/{module}/connections/{id}`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 17-56 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with (must be v1)	Path	Yes	None
`module`	The name of the module for which to update a connection. For Account Reconciliation, set this parameter to RC.	Path	Yes	None
`id`	The identifier of the connection that must be updated	Path	Yes	None
`url`	The URL of the connection, such as https://<*SERVICE_NAME*>-<*TENANT_NAME*>.<*SERVICE_TYPE*>.<*dcX*>.oraclecloud.com	Payload	Yes	None
`username`	A username with Service Administrator predefined role	Payload	Yes	None
`password`	The encrypted password for the user For security reasons, only an encrypted password is allowed. Use the EPM Automate encrypt command to generate the encrypted password. See encrypt .	Payload	Yes	None
`type`	The type of connection. Valid values include the following: • ENTERPRISE_JOURNALS - for Enterprise Journals connections • OBJECT_STORAGE - for Object Storage connections	Payload	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/rc/connections/100000000658005
```

Example of Request Body

```
{
    "url": "https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com",
    "username": "<NEW_USERNAME>",
    "password": "<NEW_PASSWORD>"
}
```

Response

Supported Media Type: `application/json`

Table 17-57 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string.

Example of Response Body

Example 1:

```
{
  "details": "Connection updated successfully."
}
```

Example 2:

```
{
  "details": "Invalid parameters. Test Connection is failed"
}
```

Delete a Connection

Use this REST API to delete a specific connection that is saved in an application.

Required Roles

Service Administrator

REST Resource

`DELETE /arm/rest/fcmapi/{api_version}/{module}/connections/{id}`

Request

Parameters:

The following table summarizes the client request.

Table 17-58 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with (must be v1)	Path	Yes	None
`module`	The name of the module for which to delete a connection. For Account Reconciliation, set this parameter to RC.	Path	Yes	None
`id`	The identifier of the connection that must be deleted	Path	Yes	None

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/rc/connections/100000000552006`

Response

Supported Media Type: `application/json`

Table 17-59 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string.

Example of Response Body

```
{
  "details": "Connection deleted successfully."
}
```

Set Application Access Level

Sets the access level for an Account Reconciliation application. You can specify that the application can be accessed only by Service Administrators or by all users.

REST Resource

`POST /armARCS/rest/{api_version}/appaccess`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request parameters.

Table 17-60 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with (must be v1)	Path	Yes	None
`access`	Specify the access level for users. Valid values include the following: • ALL_USERS - all users can access the application • ADMINISTRATORS - only Service Administrators can access the application	Payload	Yes	None

Examples of Request Body

Example 1

```
{
    "access": "ALL_USERS"
}
```

Example 2

```
{
    "access": "ADMINISTRATORS"
}
```

Response

Supported Media Type: `application/json`

Table 17-61 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string.
`status`	See Migration Status Codes
`links`	Detailed information about the link

Example of Response Body

```
{
    "status": 0,
    "details": "Application access updated successfully",
    "links": [
        {
            "rel": "self",
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
appaccess",
            "action": "GET",
            "data": null
        }
    ]
}
```

Retrieve Application Access Level

Returns the access level for an Account Reconciliation application, indicating if all users can access the application or only Service Administrators can access the application.

REST Resource

`GET /armARCS/rest/{api_version}/appaccess`

Required Roles

Service Administrator

Request

Parameters:

The following table summarizes the client request parameters.

Table 17-62 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with (must be v1)	Path	Yes	None

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
armARCS/rest/v1/appacess
```

Response

Supported Media Type: `application/json`

Table 17-63 Parameters

Parameters	Description
links	Detailed information about the link
access	Indicates the access level for users. • ALL_USERS - all users can access the application • ADMINISTRATORS - only Service Administrators can access the application

Example of Response Body

```
{
    "items": [
        {
            "access": "ALL_USERS"
        }
    ],
    "links": [
        {
            "rel": "self",
            "href": "http://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
appaccess",
            "action": "GET",
            "data": null
        }
    ]
}
```

View Reconciliation Comments

Returns all the comments, including attachments, for the specified reconciliation.

REST Resource

```
GET       /armARCS/rest/{api_version}/period/{period}/reconciliation/
{accountId}/comments
```

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request specific to this job.

Table 17-64 VIEW RECONCILIATION COMMENTS

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v1	Path	Yes	None
`period`	The name of the reconciliation's period	Path	Yes	None
`accountId`	The Account ID of the reconciliation for which comments must be retrieved	Path	Yes	None

Example URL

```
https:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/armARCS/rest/v1/
period/Jan 2022/reconciliation/101-BC2-Premapped/comments
```

Response

Supported Media Types: `application/json`

Example of Response Body

The following is an example of a reconciliation with one comment and two attachments.

```
[
    {
        "commentId": 100000002580008,
        "parentObjectId": 100000001956143,
        "commentText": "Please investigate the alert on the account.
```

```
The Risk Rating has been increased.",
        "postedBy": "admin1",
        "postedDate": "Oct 6, 2022 4:03 PM",
        "carryForward": null,
        "references": [
            {
                "referenceId": 100000002580012,
                "type": "FILE",
                "url": null,
                "name": "adjustment1.pdf",
                "fileDownloadLink": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/fcmapi/v1/rc/
references/100000002580012/file"
            },
            {
                "referenceId": 100000002580010,
                "type": "URL",
                "url": "https://www.my-example.com",
                "name": "my-example",
                "fileDownloadLink": null
            }
        ]
    }
]
```

Archive Matched Transactions (Transaction Matching)

Archives matched transactions, including support and adjustment details, that are equal to or older than a specified age. The matched transactions are stored in an archive file.

REST Resource

```
POST       /arm/rest/{api_version}/jobs
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request specific to this job.

Table 17-65 ARCHIVE MATCHED TRANSACTIONS

Name	Description	Type	Required
`api_version`	Version of the API you are working with: v1	Path	Yes
`jobName`	The name of a job, archivetransactions	Payload	Yes

Table 17-65 (Cont.) ARCHIVE MATCHED TRANSACTIONS

Name	Description	Type	Required
`reconTypeId`	The TextID of the match type from which matched transactions must be archived	Payload	Yes
`age`	Matched transactions older than or equal to this value will be archived	Payload	Yes
`filterOperator`	Filter to identify the accounts Valid values are EQUALS, NOT_EQUALS, STARTS_WITH, ENDS_WITH, CONTAINS, NOT_CONTAINS	Payload	No
`filterValue`	The Account IDs for the filter operation	Payload	No
`logFileName`	The name of the log file If a file name is not provided, the log file is named `Archive_Transactions_<reconTypeId>_<Job_id>.log`.	Payload	No
`fileName`	The name of the archive zip file If a file name is not provided, the archive file is named `Archive_Transactions_<reconTypeId>_<Job_id>.zip`.	Payload	No

Example of request body

```
{
 "jobName": "archivetransactions",
 "parameters": {
   "reconTypeId": "Pos2Processor",
   "age": 120,
   "logFileName" : "Archive_Transactions_IC120XXXX.log",
   "fileName" : "Archived_Transactions_IC120XXXX.zip",
   "filterOperator": "EQUALS",
   "filterValue": [
     "201-1234",
     "202-1234"
     ]
  }
}
```

Response

Supported Media Types: `application/json`

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "type": "TM",
    "items": null,
    "error": null,
    "link": null,
    "status": -1,
    "details": null,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/v1/jobs/
100000003846005",
            "action": "GET",
            "rel": "self",
            "data": null
        }
    ]
}
```

To get the status of the archive matched transactions job and view its details, see Retrieve Job Status (Transaction Matching).

Purge Archived Transactions (Transaction Matching)

Purges matched transactions that are already archived in Transaction Matching.

REST Resource

```
POST       /arm/rest/{api_version}/jobs
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request specific to this job.

Table 17-66 PURGE ARCHIVED TRANSACTIONS

Name	Description	Type	Required
`api_version`	Version of the API you are working with: v1	Path	Yes
`jobName`	The name of a job, purgearchivetransactions	Payload	Yes
`jobId`	Job Id of the Archive job which needs to be purged	Payload	Yes

Table 17-66 (Cont.) PURGE ARCHIVED TRANSACTIONS

Name	Description	Type	Required
`logFileName`	The name of the log file If a file name is not provided, the log file is named `Purge_Transactions_<reconTypeId>_<Job_id>.log`.	Payload	No

Example of request body

```
{
 "jobName": "purgearchivetransactions",
 "parameters": {
     "jobId": "100000003801002"
     "logFileName" : "Purge_Archive_Transactions_IC120XXXX.log"
}
}
```

Response

Supported Media Types: `application/json`

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "type": "TM",
    "items": null,
    "error": null,
    "link": null,
    "status": -1,
    "details": null,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/v1/jobs/
100000003801002",
            "action": "GET",
            "rel": "self",
            "data": null
        }
    ]
}
```

To get the status of the purge archived transactions job and view its details, see Retrieve Job Status (Transaction Matching).

Unmatch Matched Transactions (Transaction Matching)

Unmatches matched transactions in Transaction Matching. Users must specify the match type and one or more match Ids associated with this match type for which transactions must be unmatched.

For Transaction Matching profiles that are integrated with Reconciliation Compliance, the unmatch operation is skipped if the Accounting Date of one or more transactions that are being unmatched is lower than the Purge Through Date of the reconciliation.

REST Resource

```
POST       /arm/rest/{api_version}/jobs
```

Required Roles

Service Administrator, Power User, Preparer

The user who created a profile can also unmatch transactions associated with that profile.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request specific to this job.

Table 17-67 UNMATCH MATCHED TRANSACTIONS

Name	Description	Type	Required
`api_version`	Version of the API you are working with: v1	Path	Yes
`jobName`	The name of a job, such as unmatchtransactions	Payload	Yes
`matchTypeTextId`	The ID of the match type to which the matched transactions belong	Payload	Yes
`matchIds`	The Match Ids, in a comma separated array Transactions with the following status are considered for unmatching: Confirmed Match, Confirmed Adjust, Suggested Match, Suggested Adjust.	Payload	Yes

Table 17-67 (Cont.) UNMATCH MATCHED TRANSACTIONS

Name	Description	Type	Required
forceReopen	Valid values are: • True - Reconciliations will be reopened if the Adjustment Accounting Date is less than the Closed Through Date. • False - Matched transactions whose Adjustment Accounting Date is less than the Closed Through Date are skipped. This is the default setting.	Payload	No

Example of request body

```
{
 "jobName": "unmatchtransactions",
 "parameters": {
   "matchTypeTextId": "IC120",
   "matchIds":[9195754,9219755],
   "forceReopen": false
  }
}
```

Response

Supported Media Types: `application/json`

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "type": "TM",
    "items": null,
    "error": null,
    "link": null,
    "status": -1,
    "details": null

  "links": [
     {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/v1/jobs/
100000002574034",
            "action": "GET"
        }    ]
}
```

To get the status of the unmatch transactions job and view its details, see Retrieve Job Status (Transaction Matching).

Update Unmatched Transactions (Transaction Matching)

Updates one or more editable attributes in an unmatched transaction.

REST Resource

```
POST       /arm/rest/{api_version}/dataSources/{dataSource}/transactions/
{transaction}
```

Required Roles

Service Administrator, Power User, Preparer

The user who created a profile can also update transactions associated with that profile.

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request specific to this job.

Table 17-68 UPDATE UNMATCHED TRANSACTIONS

Name	Description	Type	Required
`api_version`	Version of the API you are working with: v1	Path	Yes
`dataSource`	Text ID of the data source associated with the unmatched transaction whose attributes must be updated	Path	Yes
`transaction`	Transaction ID of the unmatched transaction whose attributes must be updated	Path	Yes
`reconId`	Text Id of the reconciliation associated with the unmatched transaction that must be updated	Payload	Yes
`attributeId`	Text Id of the attribute within the unmatched transaction that must be updated	Payload	Yes

Table 17-68 (Cont.) UPDATE UNMATCHED TRANSACTIONS

Name	Description	Type	Required
`calculate`	Set to one of the following values: • True - Values of calculated attributes are recalculated • False - Values of calculated attributes are left unchanged. The default setting is False.	Payload	No
`forceReopen`	Valid values are: • True - Reconciliations will be reopened if the Adjustment Accounting Date is less than the Closed Through Date. • False - Matched transactions whose Adjustment Accounting Date is less than the Closed Through Date are skipped. This is the default setting.	Payload	No

Example URL

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/v1/
dataSources/POS/transactions/1012
```

Example of request body

```
{
   "reconId": "INTERCO133",
   "attributeId": "POS_AMOUNT",
   "value": "210015.05",
   "calculate": false,
   "forceReopen": false
}
```

Response

Supported Media Types: `application/json`

Example of Response Body

The following is an example of the response body in JSON format.

```
{
    "type": "TM",
    "items": null,
    "error": null,
```

```
    "link": null,
    "status": 0,
    "details": "Success : Update transaction - 1012",
    "links": [
        {
            "rel": "self",
            "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/arm/rest/dataSources/POS/
transactions/1012",
            "action": "GET",
            "data": null
        }
    ]
}
```

18

Financial Consolidation and Close REST APIs

Use the Financial Consolidation and Close REST APIs to get the REST API version, retrieve journals and journal details, submit, approve, post, unpost, and reject journals, and update journal periods. You can also import supplementation data, copy data, clear data, and deploy form templates.

Getting API Versions for Financial Consolidation and Close APIs

You can get information on REST API versions using REST resources. See Getting API Versions for Planning. Financial Consolidation and Close APIs use the same version numbers as Planning.

Get Information about a Specific API Version for Financial Consolidation and Close APIs

Returns details for a specific REST API version for Financial Consolidation and Close.

REST Resource

```
GET /HyperionPlanning/rest/{api_version}
```

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 18-1 Parameters

Name	Description
`api_version`	Version of the API you are developing with, such as V1

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 18-2 Parameters

Name	Description
version	The version, such as V1

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"version": "v1",
"lifecycle": "active",
"isLatest": true,
"links": [{
"rel": "canonical",
"href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v2"
}, {
"rel": "predecessor-version",
"href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v1"
}]
}
```

Perform Journal Actions for Financial Consolidation and Close

Performs journal action for the specified journal. Changes the journal status to the new state specified.

Journal actions supported: SUBMIT,APPROVE,POST,UNPOST,REJECT

This API works only for Financial Consolidation and Close.

REST Resource

```
POST      /HyperionPlanning/rest/{api_version}/applications/
{application}/journals/{journalLabel}/actions
```

Required Roles

Role	Available Actions
Service Administrator	All
Power User	Submit/Post/Unpost: Need Write access to all the members in the journal Approve/Reject. Need Read access to all the members in the journal

Role	Available Actions
User	Approve/Reject. Need Read access to all the members in the journal and Journal option must have been enabled

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 18-3 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`journalLabel`	Label for the journal	Path	Yes	None
`parameters`	Parameters for journals, for example: `{"parameters" :{ "scenario": "Actual", "year": "FY17", "period": "Jan", "consolidation": "FCCS_Entity Input", "action": "POST" }}` These parameter fields are described in rows below.	JSON	Yes	None
`scenario`	The scenario for which you are performing the journal action	Query	Yes	None
`year`	The year for which you are performing the journal action	Query	Yes	None
`period`	The period for which you are performing the journal action	Query	Yes	None
`consolidation`	The consolidation for which you are performing the journal action	Query	No	Entity Input
`action`	The journal action. Supported valid Action values: SUBMIT,REJECT,APPROVE,POST,UNPOST	Query	Yes	None

Response

Parameters

The following table summarizes the response parameters.

Table 18-4 Parameters

Name	Description
`actionDetail`	Journal action, such as Posted
`actionStatus`	Action status, such as 0

Supported Media Types: `application/json`

Sample JSON Input

```
{
        "scenario": "Actual",
        "year": "FY17",
        "period": "Jan",
        "action": "POST"
      }
```

Example of Response Body

The following shows an example of the response body.

```
{
        "actionDetail": "Posted",
        "actionStatus": 0
        }
```

Perform Journal Period Updates for Financial Consolidation and Close

Performs journal period update action for the specified period.

Journal period actions supported: OPEN,CLOSE

This API works only for Financial Consolidation and Close.

REST Resource

```
POST      /HyperionPlanning/rest/{api_version}/applications/
{application}/journalPeriods/{period}/actions
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 18-5 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`period`	The period for which you are performing the journal action	Path	Yes	None
`parameters`	Parameters for the journal period, for example: `{ "parameters": { "scenario": "Actual", "year": "FY17", "action": "OPEN" } }` These parameters are described in rows below.	JSON	Yes	None
`scenario`	The scenario for which you are performing the journal action	JSON	Yes	None
`year`	The year for which you are performing the journal action	JSON	Yes	None
`action`	The journal period action. Supported valid Action values: OPEN, CLOSE	JSON	Yes	None

Response

Parameters

The following table summarizes the response parameters.

Table 18-6 Parameters

Name	Description
`scenario`	Journal scenario, such as Actual
`year`	Journal year, such as FY18
`period`	Journal period, such as Jan
`action`	Journal period action, such as Open

Supported Media Types: `application/json`

Sample JSON Input

```
{
       "scenario": "Actual",
       "year": "FY17",
       "period": "Jan",
       "action": "OPEN"
        }
     }
```

Example of Response Body

The following shows an example of the response body.

```
{
       "actionDetail": "Open",
       "actionStatus": 0
         }
```

Retrieve Journals for Financial Consolidation and Close

Returns the list of journals for the given scenario, year, period, journal status and other specified filters.

Paging is supported if the optional offset and limit parameters are provided.

This API works only for Financial Consolidation and Close.

REST Resource

```
GET       /HyperionPlanning/rest/{api_version}/applications/
{application}/journals?
q={"scenario":"Actual","year":"FY16","period":"Jan","consolidation":"FC
CS_Entity Input","status":
"WORKING","group":"group1" ,"label":"J1" ,"description":"JournalDesc","
entity":"FCCS_Total Geography"}&offset=0&limit=5
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 18-7 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`q`	Filters for retrieving the journals, for example: `{"scenario":"Actual","year":"FY16","period":"Jan","consolidation":"FCCS_Entity Input","status":"WORKING","group":"group1" ,"label":"J1" ,"description":"JournalDesc","entity":"FCCS_Total Geography"}` Possible values are described in the following rows.	Query	No	5 journals are returned.
`scenario`	Scenario for the journal, for example: "scenario":"Actual"	Query	Yes	None
`year`	Year for the journal, for example: "year":"FY16"	Query	Yes	None
`period`	Period for the journal, for example: "period":"Jan"	Query	Yes	None
`consolidation`	Consolidation for the journal, for example: "consolidation":"FCCS_Entity Input"	Query	No	Entity Input
`status`	Status for the journal, for example: "status":"WORKING" Valid values are "WORKING" , "SUBMITTED", "POSTED", "APPROVED"	Query	Yes	None
`group`	Group for the journal, for example: "group":"group1"	Query	No	None
`label`	Label for the journal, for example: "label":"j1"	Query	No	None
`description`	Description for the journal, for example: "description":"adjustment for salary"	Query	No	None
`entity`	Entity for the journal, for example: "entity":"FCCS_Total Geography"	Query	No	None
`offset`	Used for pagination of the records. Indicates the actual index from which the records are returned. It is 0 based.	Query	No	0
`limit`	Used for pagination of the records. Controls how many items to return. Defaults to 5 if not specified.	Query	No	5

Response

The following table summarizes the response parameters.

Table 18-8 Parameters

Name	Description
totalResults	Total number of journals matching the filter criteria
hasMore	True/False, if there are more pages of records
count	Number of journals in this page
limit	Current page size
offset	Current page number
items	List of journals, followed by attributes of journals, such as below: [{ "scenario": "Actual", "currency": "Entity Currency", "createdOn": "2018-07-30 06:22:47.516", "modifiedBy": "epm_default_cloud_admin", "journalType": "Regular", "createdBy": "epm_default_cloud_admin", "balanceType": "Balanced", "postedBy": null, "year": "FY17", "description": "JournalDesc1", "group": "grp1", "status": "Working", "label": "J4", "period": "Jan"] }]

Supported Media Types: application/json

Example of Response Body

The following shows an example of the response body.

```
{
       "totalResults": 10
       "hasMore": false,
       "count": 5,
       "limit": 5,
       "offset": 0,
       "items": [{
       "scenario": "Actual",
       "createdOn": "2018-07-30 06:22:47.516",
       "modifiedBy": "epm_default_cloud_admin",
       "journalType": "Regular",
       "createdBy": "epm_default_cloud_admin",
       "balanceType": "Balanced",
       "postedBy": null,
       "year": "FY17",
       "description": "JournalDesc1",
```

```
        "group": "grp1",
        "status": "Working",
        "label": "J4",
        "period": "Jan",
        "journalUrl": {,
        "rel": "Journal Item",
        "href": "https://<SERVICE_NAME-
<TENANT_NAME.<SERVICE_TYPE.<dcX>.oraclecloud.com/HyperionPlanning/faces/
LogOn?SO_jumpToEfsStructureHome=Y&SO_efsJumpToCardId=EPM_CA_6",",
        "data": null,
        "action": "GET",
              }
      },
        {
        "scenario": "Actual",
        "currency": "Entity Currency",
        "createdOn": "2018-07-26 10:21:35.634",
        "modifiedBy": "epm_default_cloud_admin",
        "journalType": "Regular",
        "createdBy": "epm_default_cloud_admin",
        "balanceType": "Balanced",
        "postedBy": null,
        "year": "FY17",
        "description": "JournalDesc1",
        "group": "grp1",
        "status": "Working",
        "label": "J2",
        "period": "Jan",
        "journalUrl": {,
        "rel": "Journal Item",
        "href": "https://<SERVICE_NAME-
<TENANT_NAME.<SERVICE_TYPE.<dcX>.oraclecloud.com/HyperionPlanning/faces/
LogOn?SO_jumpToEfsStructureHome=Y&SO_efsJumpToCardId=EPM_CA_6",",
        "data": null,
        "action": "GET",
      },
      }
      ],
      "links": [
      {
      "rel": "Get Journals",
      "href": "https://<SERVICE_NAME-
<TENANT_NAME.<SERVICE_TYPE.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/BotApp/journals",
      "action": "GET
      }
       ],
       }
```


Retrieve Journal Details for Financial Consolidation and Close

Returns the journal details for the given scenario, year, period, consolidation, and the journal name.

This API works only for Financial Consolidation and Close.

REST Resource

```
GET       /HyperionPlanning/rest/{api_version}/applications/
{application}/journals/{journal label}?
q={"scenario":"Actual","year":"FY16","period":"Jan","consolidation":"En
tity Input"}&"lineItems"="true"
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 18-9 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	The name of the application	Path	Yes	None
`journal label`	The label of the journal for which to retrieve journal details	Path	Yes	None
`q`	Filters to retrieve the journal, for example: `q={"scenario":"Actual","year":"FY16","period":"Jan","consolidation":"Entity Input"}`	Query	Yes	None
`scenario`	Scenario for the journal, for example: "scenario":"Actual"	Query	Yes	None
`year`	Year for the journal, for example: "Year":"FY16	Query	Yes	None
`period`	Period for the journal, for example: "period":"Jan"	Query	Yes	None
`consolidation`	Consolidation for the journal, for example: "consolidation": "Entity Input"	Query	No	Entity Input

Table 18-9 (Cont.) Parameters

Name	Description	Type	Required	Default
lineItems	Line items for the journal. Valid values are true or false.	Query	No	True

Response

Parameters

The following table summarizes the response parameters.

Table 18-10 Parameters

Name	Description
totalResults	Total number of journals matching the filter criteria
hasMore	True/False, if there are more pages of records
count	Number of journals in this page
limit	Current page size
offset	Current page number
items	List of journals, followed by attributes of journals, such as below: [{ "scenario": "Actual", "currency": "Entity Currency", "createdOn": "2018-07-30 06:22:47.516", "modifiedBy": "epm_default_cloud_admin", "journalType": "Regular", "createdBy": "epm_default_cloud_admin", "balanceType": "Balanced", "postedBy": null, "year": "FY17", "description": "JournalDesc1", "group": "grp1", "status": "Working", "label": "J4", "period": "Jan"] }]

Supported Media Types: application/json

Example of Response Body

The following shows an example of the response body.

```
{
[
"scenario": "Actual",
```

```
"year": "FY18",
"period": "Feb",
"label": "JETest11",
"journalType": "Regular",
"balanceType": "Balanced",
"status": "Posted",
"description": "Journal description",
"group": "IMPORT_Group",
"createdBy": "epm_default_cloud_admin",
"modifiedBy": "epm_default_cloud_admin",
"postedBy": "epm_default_cloud_admin",
"createdOn": "2023-12-06 18:48:33.503",
"currency": "Entity Currency",
"consolidation": "FCCS_Entity Input",
"totCredit": 1300,
"totDebit": 1300,
"journalLineItems":[
{"amountType": "Debit", "amount": 800, "description": "line
description", "entity": "YY_E1",…},
{"amountType": "Credit", "amount": 500, "description": "line
description", "entity": "YY_E1",…},
{"amountType": "Debit", "amount": 500, "description": "line
description", "entity": "YY_E1",…},
{"amountType": "Credit", "amount": 800, "description": "line
description", "entity": "YY_E1",…}
]
}
```


Export Consolidation Journals

This REST API is used to execute an Export Consolidation Journals job using the job name. Before executing this job, you should create an Export Consolidation Journals job in Financial Consolidation and Close.

For details on this task, see "Exporting Consolidation Journals" in *Working with Financial Consolidation and Close*.

This REST API returns the job ID after starting the Export Consolidation Journals job.

REST Resource

POST `/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Table 18-11 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None
`application`	The name of the application Get the application name by using the Get Applications API. See Get Applications.	Path	Yes	None
`jobName`	Name of the job should be: `Export Journal`	String	Yes	None
`jobType`	Type of Job. Supported value: `EXPORT_JOURNAL`	String	Yes	None
`fileName`	Name of the file into which the journal entries are to be exported	String	Yes	None

Example of Request Body

```
{
"jobType": "EXPORT_JOURNAL,
"jobName": "Export Journal",
"parameters": {
   "fileName": "JExport1"
 }
}
```

Response Body

Supported Media Types: `application/json`

Table 18-12 Parameters

Name	Description
`status`	Status of the job: -1 =In progress; 0 = Success; 1 = Fail
`details`	In case of errors, details are published with the error string.
`descriptiveStatus`	The status of the job, such as Completed or Error
`items`	Collection of Notification categories

Table 18-12 (Cont.) Parameters

Name	Description
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type. Possible values: self

Example of Response Body:

The following shows an example of the response body in JSON format.

```
{
    "links": [
        {
            "rel": "self",
            "href": "http://slc10xth:9000/HyperionPlanning/rest/v3/
applications/FccsRef3/jobs/184",
            "action": "GET"
        },
        {
            "rel": "job-details",
            "href": "http://slc10xth:9000/HyperionPlanning/rest/v3/
applications/FccsRef3/jobs/184/details",
            "action": "GET"
        }
    ],
    "descriptiveStatus": "Processing",
    "status": -1,
    "jobId": 184,
    "jobName": "JExport1",
    "details": null
}
```

Import Consolidation Journals

This REST API is used to execute an Import Consolidation Journals job using the job name. Before executing this job, you should create an Import Consolidation Journals job in Financial Consolidation and Close.

For details on this task, see "Importing Consolidation Journals" in *Working with Financial Consolidation and Close*.

This REST API returns the job ID, job status and job details after starting the Import Consolidation Journals job.

REST Resource

POST `/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Table 18-13 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None
`application`	The name of the application Get the application name by using the Get Applications API. See Get Applications.	Path	Yes	None
`jobName`	Name of the job should be an existing journal import job: `<job name>`	String	Yes	None
`jobType`	Type of Job. Supported value: `IMPORT_JOURNAL`	String	Yes	None
`fileName`	Name of the file from which the journal entries are to be imported	String	No	File specified in the Job
`errorFileName`	Name of the log file in which messages generated during the import process are to be recorded	String	No	None

Example of Request Body

```
{
    "jobType": "IMPORT_JOURNAL",
    "jobName": "IMPORT1",
    "parameters": {
       "fileName": "TestImport1.jlf",
       "errorFileName": "DHQA_TestImport1_error.log"
    }
}
```

Response Body

Supported Media Types: `application/json`

Table 18-14 Parameters

Name	Description
`type`	Application type, for example, FCCS
`status`	Status of the job: -1 =In progress; 0 = Success; 1 = Fail
`details`	In case of errors, details are published with the error string.in the job error file and Job Console.
`descriptiveStatus`	The status of the job, such as Completed or Error
`items`	Collection of Notification categories
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type. Possible values: self

Example of Response Body:

The following shows an example of the response body in JSON format.

```
{
"links":[
{
"rel": "self",
"href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/FccsRef3/jobs/13",
"action": "GET"
},
{
"rel": "job-details",
"href": " https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/
/applications/FccsRef3/jobs/13/details",
"action": "GET"
}
],
"descriptiveStatus": "Processing",
"status": -1,
"jobId": 13,
"jobName": "JIMPORT1",
"details": null
}
```

Copy Data

This REST API is used to execute a Copy Data job using the profile name. Before executing this job, you should create a Copy Data profile in Financial Consolidation and Close.

For details on this task, see Using Copy Data Profiles.

This REST API returns the job id after starting the Copy Data job.

REST Resource

POST `/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Table 18-15 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None
`application`	The name of the application Get the application name by using the Get Applications API, for example, FCCS or TRCS. See Get Applications.	Path	Yes	None
`jobName`	Name of the job should be: `EXECUTE PROFILE`	String	Yes	None
`jobType`	Type of Job. Supported value: `COPY_DATA`	String	Yes	None
`ProfileName`	Name of the profile to use to copy data	String	Yes	None

Example of Request Body

```
{
    "jobType": "Copy_Data",
    "jobName": "Execute Profile",
    "parameters": {
        "ProfileName": "<ProfileName>",
    }
}
```

Response Body

Supported Media Types: `application/json`

Table 18-16 Parameters

Name	Description
`type`	Financial Consolidation and Close Application type, for example, FCCS

Table 18-16 (Cont.) Parameters

Name	Description
status	Status of the job: -1 =In progress; 0 = Success; 1 = Fail
details	In case of errors, details are published with the error string.
descriptiveStatus	The status of the job, such as Completed or Error
items	Collection of Notification categories
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type. Possible values: self

Example of Response Body:

The following shows an example of the response body in JSON format.

```
{
  "jobId": 8,
  "descriptiveStatus": "Processing",
  "details": null,
  "jobName": "Copy Data",
  "status": -1,
  "links": [
    {
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/<applicationName>/jobs/
<JobId>","rel":"self","action":"GET"},
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/,
      "rel":"job-details","action":"GET"},
    }
  ]
}
```

Clear Data

This REST API is used to execute a Clear Data job using the profile name. Before executing this job, you should create a Clear Data profile in Financial Consolidation and Close.

For details on this task, see Using Clear Data Profiles.

This REST API returns the job id after starting the job.

REST Resource

POST `/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 18-17 Clear Data

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None
`application`	The name of the application Get the application name by using the Get Applications API, for example, FCCS or TRCS. See Get Applications.	Path	Yes	None
`jobType`	Type of Job. Supported value: `Clear_Data`	String	Yes	None
`ProfileName`	The name of the profile to use to clear data	String	Yes	None

Example of request body

Example:

```
{
    "jobType": "Clear_Data",
    "jobName": "Execute Profile",
    "parameters": {
        "ProfileName": "<ClearData_01>",
    }
}
```

Response

Table 18-18 Parameters

Name	Description
`type`	Financial Consolidation and Close Application type, for example, FCCS
`status`	Status of the job: -1 =In progress; 0 = Success; 1 = Fail

Table 18-18 (Cont.) Parameters

Name	Description
details	In case of errors, details are published with the error string.
descriptiveStatus	The status of the job, such as Completed or Error
items	Collection of Notification categories
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type. Possible values: self

Supported Media Types: application/json

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "jobId": 8,
  "descriptiveStatus": "Processing",
  "details": null,
  "jobName": "Clear Data",
  "status": -1,
  "links": [
    {
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/<applicationName>/jobs/
<JobId>","rel":"self","action":"GET"},
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/,
      "rel":"job-details","action":"GET"},
    }
  ]
}
```

Sample

```
{
  "jobId": 8,
  "descriptiveStatus": "Processing",
  "details": null,
  "jobName": "Clear Data",
  "status": -1,
  "links": [
    {
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/ Testapp /jobs/8",
      "rel":"self","action":"GET"},
```

```
      "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3/
applications/Testapp/jobs/8/details",
      "rel":"job-details","action":"GET"}    }
  ]
}
```

Validate Metadata

This REST API is used to automatically run the Validate Metadata process to ensure an error-free database refresh and consolidation.

For details on this task, see "Validating Metadata" in *Administering Financial Consolidation and Close*.

Required Roles

Service Administrator

REST Resource

POST `/HyperionPlanning/rest/{api_version}/applications/{application_name}/application/validatemetadata?logFileName={logfile_name}`

Request

Supported Media Types: `application/json`

Table 18-19 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None
`application_name`	The name of the application Get the application name by using the Get Applications API. See Get Applications.	Path	Yes	None
`logFileName`	Name of the log file of exported results	Payload	No	None

Response

Supported Media Types: `application/json`

Table 18-20 Parameters

Name	Description
`numWarnings`	Number of metadata warnings
`numInfo`	Number of metadata information messages
`outPutFileName`	Ouput file name with the extension of .csv
`numErrors`	Number of metadata error messages
`status`	The status of the job, such as Completed or Error

Example of Response Body:

The following shows an example of the response body in JSON format.

```
{
"numWarnings": 0,
"numInfo": 0,
"outPutFileName": "ValidateMetadata.csv,
"numErrors": 20,
"status": "Validate Metadata Completed"
}
```

Generate an Intercompany Matching Report

This REST API is used to execute an Intercompany Matching Report job.

For details on this task, see Managing Intercompany Matching Reports.

This REST API returns the job ID after starting the Intercompany Matching Report job.

Required Roles

Service Administrator, Power User or User

REST Resource

`POST /HyperionPlanning/rest/{api_version}/applications/{application}/jobs`

Request

Supported Media Types: `application/json`

Table 18-21 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None
`application_name`	The name of the application Get the application name by using the Get Applications API. See Get Applications.	Path	Yes	None
`jobName`	The name of the saved Intercompany report definition, for example: IC_Job_01	Payload	Yes	None
`jobType`	Type of Job. Supported value: GENERATE_INTERCOMPANY_REPORT	Payload	Yes	None
`parameters`	Pass optional parameters to set the report POV	Payload	No	None

Table 18-22 Optional Parameters

Name	Description
`scenario`	The member of the Scenario dimension for the report, for example, Actual
`years`	The member of the Year dimension for the report, for example, FY22
`period`	The member of the Period dimension for the report, for example, December
`reportFormat`	The format for the report, for example, HTML

Table 18-22 (Cont.) Optional Parameters

Name	Description
`fileName` (optional)	A filename for the report, for example, intercompany_receivables_report

Example of Request Body

```
{
"jobType": "GENERATE_INTERCOMPANY_REPORT",
"jobName": "icp1",
"parameters": {
"scenario":"actual",
"years": "FY22",
"period":"Dec",
"reportFormat":"HTML"
"fileName":"intercompany_receivables_report"
}
}
```

Response Body

Supported Media Types: `application/json`

Table 18-23 Parameters

Name	Description
`type`	Financial Consolidation and Close Application type, for example, FCCS
`status`	Status of the job: • -1 =In progress • 0 = Success; • 1 = Fail • 2 = Cancel Pending • 3 = Cancelled • 4 = Invalid Parameter • >4 = Unknown
`details`	In case of errors, details are published with the error string.
`descriptiveStatus`	The status of the job, such as Completed or Error
`items`	Collection of Notification categories
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type. Possible values: self

Example of Response Body:

The following shows an example of the response body in JSON format.


```
{
    "descriptiveStatus": "Processing",
    "jobId": 33,
    "jobName": "icp1",
    "details": null,
    "status": -1,
    "links": [
        {
            "rel": "self",
            "href": "http://slcar262.usdv1.oraclecloud.com:12055/
HyperionPlanning/rest/v3/applications/tst/jobs/33",
            "action": "GET"
        },
        {
            "rel": "job-details",
            "href": "http://slcar262.usdv1.oraclecloud.com:12055/
HyperionPlanning/rest/v3/applications/tst/jobs/33/details",
            "action": "GET"
        }
    ]
}
```

19

Task Manager REST APIs

Use the Task Manager REST APIs to deploy task manager templates, update the task status for event monitoring, and manage Oracle Integration Cloud connections.

Getting API Versions for Task Manager APIs

You can get information on REST API versions using REST resources. See Getting API Versions for Planning. Task Manager REST APIs use the same version numbers as Planning.

Table 19-1 Task Manager REST APIs

API Name	Versions
Deploy Task Manager Templates	v1
Update Task Status for Event Monitoring	v1

Deploy Task Manager Templates

Deploys a Task Manager template to provided year and period to create a new schedule.

This API executes the job based on the job type (TM_DEPLOY_TEMPLATE) provided as a JSON parameter. This is an asynchronous API and responds with a callback API to get the job status.

Parameters

The following table summarizes the client request:

Table 19-2 TM_DEPLOY_TEMPLATES Parameters

Name	Description	Type	Required	Default
`jobType`	Type of the Job, value for this Job is TM_DEPLOY_TEMPLATE	String	Yes	None
`templateName`	The name of the task manager template to be deployed	String	Yes	None
`scheduleName`	The name of the new schedule that will be created from the template	String	Yes	None
`year`	The member of the Year dimension where the template will be deployed	String	Yes	None

Table 19-2 (Cont.) TM_DEPLOY_TEMPLATES Parameters

Name	Description	Type	Required	Default
`period`	The member of the Period dimension where the template will be deployed	String	Yes	None
`dayZeroDate`	The Day Zero date used in creating the Schedule in a valid format	String	Yes	None
`dateFormat`	The date format for the Day Zero Date	String	No	YYY-MM-DD
`orgUnit`	The Organization Unit name	String	No	None

REST Resource

POST `/HyperionPlanning/rest/cmapi/{api_version}/jobs`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 19-3 Parameters

Name	Description	Type	Required	Default
`api_version`	It is a path parameter. Version of the API you are developing with for example, v1	String	Yes	None

Examples of Request Body

Example for Job Type: TM_DEPLOY_TEMPLATE

Example 1:

```
{
    "jobType":"TM_DEPLOY_TEMPLATE",
    "parameters":{
        "templateName":"Template1",
```

```
        "scheduleName": "scheduleA",
        "year":"2021",
        "period":"Jan",
        "dayZeroDate":"2021-01-01"
    }
}
```

Example 2:

```
{
    "jobType":"TM_DEPLOY_TEMPLATE",
    "parameters":{
        "templateName":"Template1",
        "scheduleName": "scheduleA",
        "year":"2021",
        "period":"Jan",
        "dayZeroDate":"2021-01-01",
         "orgUnit":"JPAC"
    }
}
```

Response

Supported Media Types: `application/json`

Table 19-4 Parameters

Name	Description
`jobId`	Job ID
`descriptiveStatus`	Any additional details
`details`	Message to the end user. In case of errors, details are published.
`status`	-1 – In Progress; 0 – Success; 1 – Fail
`items`	Not applicable for this job type
`links`	Detailed information about the link

Table 19-4 (Cont.) Parameters

Name	Description
rel	Possible values: self
href	Links to API call
action	The HTTP call type

JSON Output

The following is an example of the response body in JSON format.

```
{

    "links": [

        {

            "rel": "self",

            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/cmapi/v1/jobs",

            "action": "POST"

        },

        {

            "rel": "Job Status",

            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/cmapi/v1/jobs/14008",

            "action": "GET"

        }

    ],

    "details": "In Process",

    "status": -1,

    "type": "TM",

    "link": {},

    "error": null,

    "items": []
```

```
}
```

Update Task Status for Event Monitoring

This API is used to update the task status to "completed" based on an event monitoring integration type. For information on setting up integration type for Event Monitoring, see Creating Custom Event Monitoring Integrations in *Administering Financial Consolidation and Close*.

REST Resource

POST `/HyperionPlanning/rest/cmapi/{api_version}/updateTasksForEventMonitoring`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 19-5 Parameters

Name	Description	Type	Required	Default Value
`api_version`	Version of the API you are developing with	Path	Yes	v1
`eventName`	Event name as specified in the custom event monitoring integration type.	JSON (String)	Yes	None
`integrationName`	Integration Code of the custom event monitoring integration type.	JSON (String)	Yes	None
`integrationConnectionName`	Connection name which the event monitoring integration belongs to.	JSON (String)	Yes	None
`parameters`	Parameter values as per the custom event monitoring integration type. The format is: `[ {"name" :"param1", "value":"value1" , {"name" :"param2", "value":"value2" }]`	JSON	Yes	None
`message`	A message needs to be added while closing the task. This information is displayed on the task dialog.	JSON (String)	No	None

Table 19-5 (Cont.) Parameters

Name	Description	Type	Required	Default Value
logLocation	Any location which needs to be added which refers to a log. This information is displayed on the task dialog.	JSON (String)	No	None
reportLocations	One or more URLs to add while closing the task. The format is: `["Example_URL1", "Example_URL2"]` This information will be displayed on the Task dialog box.	JSON (List of Strings)	No	None

Example URL

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/cmapi/v1/updateTasksForEventMonitoring
```

Payload

Example 1

If the custom event monitoring integration has the following properties:

- Integration Connection Name: customAppConn
- Integration Code: customPeriodClose
- Event Name: custom.CloseProcess.period.close
- Parameter Code: periodName and ledgerID

And the task is set up with following parameters:

- periodName: FY18
- ledgerID: 123

The following payload should be sent to close the task:

```
{
       "eventName" : "custom.CloseProcess.period.close",
       "integrationName" : "customPeriodClose",
       "integrationConnectionName" : "customAppConn",
    "parameters": [{
        "name": "periodName",
        "value": "FY18"
    }, {
        "name": "ledgerID",
        "value": "123"
    }]
}
```

> **Note:**
>
> The API expects integration code to be passed for the parameter `integrationName`.

Example 2

```
{
    "eventName": "custom.CloseProcess.period.close",
    "integrationName": "customPeriodClose",
    "integrationConnectionName": "customAppConn",
    "parameters": [
        {
            "name": "periodName",
            "value": "FY18"
        },
        {
            "name": "ledgerID",
            "value": "123"
        }
    ],
    "message": "Close period",
    "logLocation": "/logs/closeperiod.txt",
    "reportLocations": [
        "http://oracle.com/reportLocation.html"
    ]
}
```

Response

Supported Media Types: `application/json`

Example of a Successful Response

```
Http status code: 200
```

```
{
    "type": "RC",
    "items": null,
    "error": null,
    "link": null,
    "status": null,
    "details": "2 task(s) updated.",
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/
cmapi/v1/updateTasksForEventMonitoring",
            "action": "POST"
        }
    ]
}
```

Example of an Error Response

```
Http status: 500
```

Working with Connections in Task Manager

Use these REST APIs to work with Oracle Integration Cloud connection in Task Manager.

Oracle Integration Cloud is used by custom Process Automation and Event Monitoring Integration tasks.

With multiple environments, using REST APIs saves you time and effort by automating the process of logging in and configuring connections. For information about accessing environments, see Accessing EPM Cloud.

Table 19-6 Working with Connections in Task Manager

Task	Request	REST Resource
Create a Connection	POST	`/HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections`
View All Connections	GET	`/HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections`
Update a Connection	PUT	`/HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections/{id}`
Delete a Connection	DELETE	`/HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections/{id}`

Create a Connection

Use this REST API to create a connection to Oracle Integration Cloud using Task Manager.

REST Resource

```
POST /HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request parameters for Basic authentication and OAuth 2.0 authentication.

Table 19-7 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you're developing with (must be v1)	Path	Yes	None
`module`	The name of the module for which to create a connection. Set this value to FCM.	Path	Yes	None
`url`	The URL of the Integration Cloud environment. **Note:** The URL must be provided only till the server name, which is oraclecloud.com .	Payload	Yes	None
`authType`	Type of authentication: • Basic • OAuth **Note:** The parameter is applicable only for OAuth 2.0 authentication type.	Payload	Yes	None
`oauthProperties`	Specify the access token, client ID, and scope of the URL for OAuth 2.0 authentication. **Note:** The parameter is applicable only for OAuth 2.0 authentication type.	Payload	Payload	None

Table 19-7 (Cont.) Parameters

Name	Description	Type	Required	Default
username	A username with the Service Administrator predefined role. **Note:** This parameter is applicable only for basic authentication type.	Payload	Yes	None
password	The encrypted password for the user. For security reasons, only an encrypted password is allowed. Use the EPM Automate encrypt command to generate the encrypted password. See encrypt . **Note:** This parameter is applicable only for basic authentication type.	Payload	Yes	None
type	The type of connection. For Oracle Integration Cloud, set this value to ICS.	Payload	Yes	None

Example of Request Body- Basic Authentication

```
{
    "url": "<URL of Oracle Integration Cloud>",
    "username": "<NEW_USERNAME>",
    "password": "<NEW_PASSWORD>",
    "type" : "ICS"
    "authType": "BASIC"
}
```

Example of Request Body- OAuth 2.0 Authentication

```
{
     "url": "<URL of Oracle Integration Cloud>",
      "type": "ICS",
      "authType": "OAUTH2",
      "oauthProperties": {
                "accessTokenUrl": "<Access token URL>",
```

```
                "clientId": "<Client ID>",
                "scope": "<Scope URL>",
                "clientSecret": "<EPMAUTOMATE Encrypted password>"
            }
}
```

Response

Supported Media Type: `application/json`

Table 19-8 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string.

Example of Response Body

```
{
  "details": "Connection created successfully."
}
```

View All Connections

Use this REST API to view all the connections to Oracle Integration Cloud using Task Manager.

Required Roles

Service Administrator

REST Resource

`GET /HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections`

Request

Parameters:

The following table summarizes the client request.

Table 19-9 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with (must be v1)	Path	Yes	None
`module`	The name of the module for which you want to view the connections. Set this value to FCM.	Path	Yes	None

Response

Supported Media Types: `application/json`

The following table summarizes the parameters.

Table 19-10 Parameters

Parameters	Description
items	Collection of information about the resource
id	Unique identifier for the connection
type	The type of connection. For Oracle Integration Cloud, set this value to ICS.
url	The URL of the Integration Cloud environment.

> **Note:**
>
> The URL must be provided only till the server name, which is oraclecloud.com.

authType	Type of authentication: • Basic • OAuth
oauthProperties	Provides the access token, client ID, and scope of the URL for OAuth 2.0 authentication.
details	In case of errors, details are published with the error string

Example Response - Basic Authentication

```
{
    "links": [
        {
            "rel": "self",
            "href": "<URL of Oracle Integration Cloud>",
            "action": "GET"
        }
    ],
    "details": null,
    "items": [
        {
            "username": "ats_admin2",
            "password": null,
            "url": "<URL of Oracle Integration Cloud>",
            "id": 100000000558008,
            "type": "ICS"
            "authType": "BASIC"
        }
    ]
}
```

Example Response - OAuth 2.0 Authentication

```
{
    "details": null,
    "items": [
```

```
        {
            "id": 100000000037009,
            "url": "<URL of Oracle Integration Cloud>",
            "type": "ICS",
            "authType": "OAUTH2",
            "oauthProperties": {
                "accessTokenUrl": "<Access token URL>",
                "clientId": "<Client ID>",
                "scope": "<Scope URL>"
            }
        }
    ],
    "links": [
        {
            "rel": "self",
            "href": "<URL of Oracle Integration Cloud>",
            "action": "GET"
        }
    ]
}
```

Update a Connection

Use this REST API to update a specific connection to Oracle Integration Cloud using Task Manager.

REST Resource

`PUT /HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections/{id}`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters:

The following table summarizes the client request.

Table 19-11 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with (must be v1)	Path	Yes	None
`module`	The name of the module for which to update a connection. Set this value to FCM.	Path	Yes	None
`id`	The identifier of the connection that must be updated	Path	Yes	None

Table 19-11 (Cont.) Parameters

Name	Description	Type	Required	Default
`url`	The URL of the Integration Cloud environment. **Note:** The URL must be provided only till the server name, which is oraclecloud.com .	Payload	Yes	None
`authType`	Type of authentication: • Basic • OAuth **Note:** The parameter is applicable only for OAuth 2.0 authentication type.			
`oauthProperties`	Specify the access token, client ID, and scope of the URL for OAuth 2.0 authentication. **Note:** The parameter is applicable only for OAuth 2.0 authentication type.			

Table 19-11 (Cont.) Parameters

Name	Description	Type	Required	Default
`username`	A username with Service Administrator predefined role. **Note:** This parameter is applicable only for basic authentication type.	Payload	Yes	None
`password`	The encrypted password for the user. For security reasons, only an encrypted password is allowed. Use the EPM Automate encrypt command to generate the encrypted password. See encrypt . **Note:** This parameter is applicable only for basic authentication type.	Payload	Yes	None
`type`	The type of connection. For Oracle Integration Cloud, set this value to ICS.	Payload	Yes	None

Example of Request Body - Basic Authentication

```
{
    "url": "<URL of Oracle Integration Cloud>",
    "username": "<NEW_USERNAME>",
    "password": "<NEW_PASSWORD>"
    "authType": "BASIC"
}
```

Example of Request Body – OAuth 2.0 Authentication

```
  {
     "url": "<URL of Oracle Integration Cloud>",
      "type": "ICS",
      "authType": "OAUTH2",
      "oauthProperties": {
                "accessTokenUrl": "<Access token URL>",
                "clientId": "<Client ID>",
```

```
                "scope": "<Scope URL>",
                "clientSecret": "<EPMAUTOMATE Encrypted password>"
            }
}
```

Response

Supported Media Type: `application/json`

Table 19-12 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string.

Example of Response Body

Example 1:

```
{
  "details": "Connection updated successfully."
}
```

Example 2:

```
{
  "details": "Invalid parameters. Test Connection is failed"
}
```

Delete a Connection

Use this REST API to delete a specific connection to Oracle Integration Cloud using Task Manager.

Required Roles

Service Administrator

REST Resource

```
DELETE /HyperionPlanning/rest/fcmapi/{api_version}/{module}/connections/
{id}
```

Request

Parameters:

The following table summarizes the client request.

Table 19-13 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with (must be v1)	Path	Yes	None

Table 19-13 (Cont.) Parameters

Name	Description	Type	Required	Default
`module`	The name of the module for which to delete a connection. Set this value to FCM.	Path	Yes	None
`id`	The identifier of the connection that must be deleted	Path	Yes	None

Response

Supported Media Type: `application/json`

Table 19-14 Parameters

Parameters	Description
`details`	In case of errors, details are published with the error string.

Example of Response Body

```
{
  "details": "Connection deleted successfully."
}
```

20

Supplemental Data Manager REST APIs

Use the Supplemental Data Manager REST APIs to import supplemental collection data for Financial Consolidation and Close and deploy form templates.

Getting API Versions for Supplemental Data Manager APIs

You can get information on REST API versions using REST resources. See Getting API Versions for Planning. Supplemental Data Manager REST APIs use the same version numbers as Planning.

Table 20-1 Supplemental Data Manager REST APIs

API Name	Versions
Import Supplemental Collection Data for Financial Consolidation and Close	v3
Deploy Form Templates	v3

Import Supplemental Collection Data for Financial Consolidation and Close

Imports supplemental data to a collection for the frequency dimensions defined in the collection interval of the collection. Returns the success or failure status.

REST Resource

```
POST      /HyperionPlanning/rest/{api_version}/applications/{application}/
fcmjobs
```

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

Table 20-2 IMPORT_SUPPLEMENTAL_COLLECTION_DATA

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None

Table 20-2 (Cont.) IMPORT_SUPPLEMENTAL_COLLECTION_DATA

Name	Description	Type	Required	Default
`application`	The name of the application Get the application name by using the Get Applications API, for example, FCCS or TRCS. See Get Applications.	Path	Yes	None
`jobName`	Name of the job	String	No	None
`jobType`	Type of the Job. Supported value for this Job IMPORT_SUPPLEMENTAL_COLLECTION_DATA	String	Yes	None
`fileName`	File name to be imported, for example, dataset.csv	String	Yes	None
`collection`	Collection or sub-collection name	String	Yes	None
`year`	The year for which the collection is deployed	String	Yes	None
`period`	Period name for which the collection is deployed	String	Yes	None
`parameter`	Runtime parameter. This is the frequency dimension used for the Collection.	String	No	None
`value`	Runtime parameter value. This is the member value for the dimension specified in the parameter.	String	No	None

Table 20-3 Examples of runtime parameters

Parameter	Value
Product	Oracle EPM
Consolidation	Entity Input
Movement	Actual

Examples of request body

Example 1

```
{
 "jobType" : "IMPORT_SUPPLEMENTAL_COLLECTION_DATA",
 "parameters": {
                              "fileName":"import_sdm_data.csv",
```

```
                              "collection":"Investment Detail Collection",
                              "year":"2019",
                              "period":"Dec",
                              "product:"Oracle EPM",
                              "consolidation":"Entity Input",
                               }
}
```

Example 2

```
{
 "jobType" : "IMPORT_SUPPLEMENTAL_COLLECTION_DATA",
 "parameters": {
                              "fileName":"import_sdm_data.csv",
                              "collection":"Investment Detail Collection",
                              "year":"2020",
                              "period":"January",
                              "category":"Oracle EPM",
                              "movement":"Actual",
                               }
}
```

Example 3

```
{
 "jobType" : "IMPORT_SUPPLEMENTAL_COLLECTION_DATA",
 "parameters": {
                              "fileName":"import_sdm_data.csv",
                              "collection":"Investment Detail Collection",
                              "year":"2019",
                              "period":"December",
                              "scenario":"Actual",
                               }
}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 20-4 Parameters

Name	Description
`type`	FCCS Application type, for example, FCCS
`status`	-1 - In Progress; 0 - Success; 1 - Fail
`details`	In case of errors, details are published with the error string
`descriptiveStatus`	The status of the job, such as Completed or Error
`items`	Collection of Notification categories
`links`	Detailed information about the link
`href`	Links to API call

Table 20-4 (Cont.) Parameters

Name	Description
`action`	The HTTP call type
`rel`	Relationship type. Possible values: self

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "jobId":100000000114040,
  "descriptiveStatus":"In Progress",
  "details": "In Progress",
  "status": -1,
  "items": [],
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME-
<TENANT_NAME.<SERVICE_TYPE.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/FCCS/fcmjobs/100000000114040"
    }, {",
      "action":"GET"
    }
  ],
}
```

Deploy Form Templates

Enables you to deploy form templates that have been created in Financial Consolidation and Close.

For details on Using Deploying a Form Template to a Data Collection Period.

This REST API returns the job id after starting the job.

REST Resource

POST `/HyperionPlanning/rest/{api_version}/applications/{application}/fcmjobs`

Required Roles

Service Administrator, Power User

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 20-5 Deploy Form Template

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None
`application`	The name of the application Get the application name by using the Get Applications API, for example, FCCS. See Get Applications.	Path	Yes	None
`jobName`	Name of the job that has been defined in Financial Consolidation and Close or no value for the job	String	No	None
`jobType`	Type of Job. Supported value: `DEPLOY_FORM_TEMPLATES`	String	Yes	None
`CollectionIntervalName`	The name of the collection interval to which the template should be deployed	String	Yes	None
Parameter for frequency dimension 1	Dimension and member name of interval frequency dimension, to which the template should be deployed. This optional key value parameter depends on the number of frequency dimensions in the interval. The key should be dimension name and the value should be member name.	String	No	None

Table 20-5 (Cont.) Deploy Form Template

Name	Description	Type	Required	Default
Parameter for frequency dimension 2	Dimension and member name of interval frequency dimension, to which the template should be deployed. This optional key value parameter depends on the number of frequency dimensions in the interval. The key should be dimension name and the value should be member name.	String	No	None
Parameter for frequency dimension 3	Dimension and member name of interval frequency dimension, to which the template should be deployed. This optional key value parameter depends on the number of frequency dimensions in the interval. The key should be dimension name and the value should be member name.	String	No	None

Table 20-5 (Cont.) Deploy Form Template

Name	Description	Type	Required	Default
Parameter for frequency dimension 4	Dimension and member name of interval frequency dimension, to which the template should be deployed. This optional key value parameter depends on the number of frequency dimensions in the interval. The key should be dimension name and the value should be member name.	String	No	None
Template	Names of the form templates to deploy. You can provide multiple parameters with the same key as "TEMPLATE" and this will be converted to a JSON array and passed as a single parameter in the JSON string. This is an optional parameter. However, if nothing is specified for the TEMPLATE key, this parameter is still present as an empty JSON Array in the JSON string, and all templates for the given interval will be deployed. Even if you give only one template name, this should still be passed as a JSON array.	JSON Array	No	None

Table 20-5 (Cont.) Deploy Form Template

Name	Description	Type	Required	Default
ResetWorkflows	Either true or false. Optional parameter indicating whether all forms should be reset back to the first stage after redeploying. This parameter is also derived by the system based on changes to the template and collection, so the system-derived value can override the user specified value.	Boolean	No	false

Examples of request body

Example 1:

```
{
    "jobType" : "DEPLOY_FORM_TEMPLATES",
    "parameters":
                {
                    "CollectionIntervalName" : "Journal Collection
Interval",
                    "Year" : "2020",
                    "Period" : "July",
                    "Product" : "Oracle EPM",
                    "Consolidation" : "Entity Input",
                    "Template" : [ "Template,1","Template 2" ],
                     "ResetWorkflows" : "true"
                }
}
```

Example 2:

```
{
    "jobType" : "DEPLOY_FORM_TEMPLATES",
    "parameters":
                {
                    "CollectionIntervalName" : "Loan Collection
Interval",
                    "Year" : "2020",
                    "Period" : "July",
                    "Category" : "Oracle EPM",
                    "Movement" : "Actual",
                    "Template" : ["Template 3"]
```

```
                }
}
```

Example 3:

```
{
    "jobType" : "DEPLOY_FORM_TEMPLATES",
    "parameters":
                {
                    "CollectionIntervalName" : "Default",
                    "Year" : "2020",
                    "Period" : "July",
                    "Scenario" : "Actual",
                    "Template" : ["Template 5","Template 6"],
                     "ResetWorkflows" : "false",
                }
}
```

Example 4:

```
{
    "jobType" : "DEPLOY_FORM_TEMPLATES",
    "parameters":
                {
                    "CollectionIntervalName" : "Custom Interval",
                    "Year" : "2020",
                    "Period" : "July",
                    "Template" : ["Template 5","Template 6","Template
7","Template 8"]
                }
}
```

Response

Table 20-6 Parameters

Name	Description
`jobId`	Financial Consolidation and Close job ID
`descriptiveStatus`	
`details`	Any additional details
`Status`	-1 = In progress; 0 = Success; 1 = Fail
`items`	Not applicable for this job type
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Possible values: self

Supported Media Types: `application/json`

JSON Output

The following is an example of the response body in JSON format.

```
{
   "jobId":100000000114040,
   "descriptiveStatus":",
   "detail":"In Progress",
   "status":-1,
   "items":null,
   "links":[
      {
         "rel":"self",
         "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/FCCS/fcmjobs/100000000114040",
         "action":"GET"
      }
   ]
}
```

21

Enterprise Journal REST APIs

Use the Enterprise Journal REST APIs to:

- Monitor Enterprise Journals for Financial Consolidation and Close
- Execute an Enterprise Journal job
- Retrieve Enterprise Journals for Financial Consolidation and Close
- Retrieve Enterprise Journal Content for Financial Consolidation and Close
- Retrieve Enterprise Journal Content by Year and Period for Financial Consolidation and Close
- Update Enterprise Journal Posting Status for Financial Consolidation and Close

Getting API Versions for Enterprise Journal APIs

You can get information on REST API versions using REST resources. See Getting API Versions for Planning. The Enterprise Journal REST APIs use the same version numbers as Planning.

Table 21-1 Enterprise Journal REST APIs

API Name	Versions
Execute an Enterprise Journals Job	v1
Monitor Enterprise Journals for Financial Consolidation and Close	v1
Retrieve Enterprise Journals for Financial Consolidation and Close	v1
Retrieve Enterprise Journal Content for Financial Consolidation and Close	v1
Retrieve Enterprise Journal Content by Year and Period for Financial Consolidation and Close	v1
Update Enterprise Journal Posting Status for Financial Consolidation and Close	v1
Update Validation Status of Enterprise Journals for Financial Consolidation and Close	v1

Monitor Enterprise Journals for Financial Consolidation and Close

Returns the status of Journals for the given parameters.

> **Note:**
>
> - If all journals for given parameters are closed, then the output status would be '0' and detail text specifies that all journals are closed.
> - If any journal for the given parameters is in Open status (Pending, Open with Preparer, Open with Approver etc.), then the output status would be '-1'.
> - In case of error, a positive number will be returned in status.

REST Resource

```
POST      /rest/ej/{api_version}/jobs/
```

Required Roles

Service Administrator and Power User

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 21-2 Parameters

Name	Description	Path	Required
`api_version`	Version of the API you are working with, such as v1.	Yes	Yes
`jobType`	The name of the job `EJ_MONITOR_JOURNALS`.	No	Yes
`year`	The name of the year, such as 2021, 2022 etc.	No	No
`period`	The name of the period, such as Jan, Feb etc.	No	No
`filterName`	The name of the filter. For example, `Journal status filter`.	No	Yes

> **Note:**
>
> Either the combination of Year and Period or the Filter Name must be passed. If Year and Period can be part of filter, then Filter Name is sufficient in the parameters.

Example of request body

```
{

    "jobType": "EJ_MONITOR_JOURNALS",
```

```
    "parameters": {

        "year": "2022",

        "period": "Jan",

        "filterName": "Jan22_ERPDirectJournals"

    }

}
```

Response

Supported Media Types: `application/json`

Parameters:

Table 21-3 Parameters

Name	Description
`details`	Journal Name and Status. First 100 journals only. Shows Open journals first. In case of errors, details are published with the error string.
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to the API call
`action`	The HTTP call type
`rel`	Relationship type (`self`, `Job Status`). if set to `Job Status`, you can use the `href` to get the status of the operation

Examples of Response Body

The following is an example of the response body in JSON format when all journals are closed:

```
{
    "status": 0,
    "details": "All journals for the given filter are closed.",
    "links": [
        {
            "rel": "self",
     "href": "https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>/
HyperionPlanning/rest/ej/{api_version}/jobs/rest/ej/v1/jobs/monitorJournals?
year=2022&period=Jan&filterName=ERP_Direct",
     "action": "GET"
        }
    ],
    "type": "EPM",
}
```

The following is an example of the response body in JSON format when any journal status is open:

```
{
    "status": -1,
    "details": "Journal_NonDirect1|2022|Jan|1000000001, Status:Open
with Preparer; \n
  Journal_NonDirect1|2022|Jan|1000000002, Status:Closed",
    "links": [
        {
            "rel": "self",
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com
HyperionPlanning/rest/ej/{api_version}/jobs/monitorJournals?
year=2022&period=Jan&filterName=EJ_NonDirect ",
            "action": "GET"
        }
    ],
    "type": "EPM",
}
```

Execute an Enterprise Journals Job

This API will execute the job based on the job type provided as a JSON parameter. It is an asynchronous API. This API will respond with a callback API to get the Job status.

Table 21-4 Enterprise Journals Supported Job Types

Job Type	Description
`exportEJJournals`	This job exports the data of "Ready To Validate" or "Ready to Post" journals based on the operation defined. It creates one CSV file per journal based on the target definition and mappings defined in Enterprise Journals and copies it to an EPM Automate-designated directory. The resulting file follows the naming pattern: `<Year>_<Period>_<Journal_ID>.csv`. After creating the export file, it updates the journal Post status to "Post in Progress" if operation is "posting" or updated the validation status to "Validation In Progress" if operation is "validation".

Table 21-4 (Cont.) Enterprise Journals Supported Job Types

Job Type	Description
`setEJJournalStatus`	This job updates the Post status or Validation status of a journal after importing the journal to the ERP system. **If operation = posting:** A CSV file containing the results of the journal posting is provided. The file contains these columns: Year, Period, Journal ID, Posting Status (Posted/Failed), Message, Error Code, Error Message. The Message, Error Code and Error Message columns are optional. Posting status of the journals is updated based on the status provided in the file. Only journals with a Posting status of "Post in Progress" will be updated. **If operation = validation:** A CSV file containing the results of the journal validation is provided. The file contains these columns: Year, Period, Journal ID, Validation Status (Valid/Failed), Message, Error Code, Error Message. The Message, Error Code and Error Message columns are optional. Validation status of the journals is updated based on the status provided in the file. Only journals with a Validation status of "Validation In Progress" will be updated.
`deployEJTemplates`	This job is used to deploy finalized journal templates to new journal periods to create journals for year-period combinations, ensuring a consistent and repeatable journal collection process.

REST Resource

POST `/HyperionPlanning/rest/ej/{api_version}/jobs`

Required Roles

Job Type	Role
`exportEJJournals`	Service Administrator
`setEJJournalStatus`	Service Administrator
`deployEJTemplates`	Service Administrator, Power User

Request

Supported Media Types: `application/json`

Parameters

This table summarizes the request parameters that are generic to all jobs. The following tables describe parameters specific to individual rules.

Table 21-5 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None

Table 21-6 `exportEJJournals` Parameters

Name	Description	Type	Required	Default
`jobType`	Type of the Job. Value for this job is `exportEJJournals`.	String	Yes	None
`filename`	The name of the zip file to which each individual journal file is added	String	Yes	None
`year`	The year for which the journal is used for data collection	String	No	None
`period`	The period for which the journal is used for data collection	String	No	None
`operation`	Specifies the operation - posting or validation	String	No	posting

Table 21-7 `setEJJournalStatus` Parameters

Name	Description	Type	Required	Default
`jobType`	Type of the Job. Value for this job is `setEJJournalStatus`.	String	Yes	None

Table 21-7 (Cont.) `setEJJournalStatus` Parameters

Name	Description	Type	Required	Default
`filename`	Filename is the file in CSV format that contains the following information regarding the posting process: • Year: Year of the Journal posted • Period: Period of the Journal posted • JournalID: Journal Identifier of Journal posted • Posting Status: Valid values are Posted or Failed. (if operation = posting) • Validation Status: Valid values are Valid or Failed. (if operation = validation) Failed status has a message and attached error list returned from ERP • Message: Optional. Can be used for error messages from ERP in case there is a posting failure Note: Multiple Journal Posting statuses may be included as records in the CSV file.	String	Yes	None
`operation`	Specifies the operation. posting or validation	String	No	posting

Table 21-8 `deployEJTemplates` Parameters

Name	Description	Type	Required	Default
`jobType`	Type of the Job. Value for this job is `deployEJTemplates`.	String	Yes	None
`year`	The year used for the journal	String	Yes	None
`period`	The period for the journal	String	Yes	None

Table 21-8 (Cont.) `deployEJTemplates` Parameters

Name	Description	Type	Required	Default
`Template`	Names of journal templates that need to be deployed. You can specify multiple parameters with the same key as "TEMPLATE" in the command, and it will be converted into JSON array and passed as a single parameter in JSON string. If you only specify one template name, it is still passed as JSON array. This parameter is optional. If no value is specified in the command for the TEMPLATE key, then this parameter would still be present as an empty JSON array in JSON string, and all templates for the specified year and period will be deployed.	JSON Array	No	None
`ResetJournals`	Value values: True or False. Optional. Indicates whether or not all journals need to be reset to the first stage after re-deployment. This parameter is also derived by the system based on changes to the template. The system-derived value can override the user-specified value.	Boolean	No	False

Examples of Request Body

Example for Job Type: exportEJJournals

Example 1:

```
{
 "jobType" : "exportEJJournals",
 "parameters": {
                              "Filename":"export.zip",
                              "Year":"2020"
                              "Period":"Jan"
                              "Operation":"validation"
                              }
}
```

Example 2:

```
{
 "jobType" : "exportEJJournals",
 "parameters": {
                              "Filename":"export.zip",
                              }
}
```

Example for Job Type: setEJJournalStatus

```
{
 "jobType" : "setEJJournalStatus",
 "parameters": {
                              "Filename":"JournalsStatus.csv",
                              "Operation":"validation"
                              }
}
```

Examples for Job Type: deployEJTemplates

Example 1:

```
{
 "jobType" : "deployEJTemplates",
 "parameters": {
                              "Year":"2020"
                              "Period":"July"
                              "Template": ["Template 1","Template 2"],
                              "ResetJournals":"true"
                              }
}
```

Example 2:

```
{
 "jobType" : "deployEJTemplates",
 "parameters": {
                              "Year":"2020"
```

```
                                "Period":"July"
                                "Template": ["Template 3"],
                                }
}
```

Example 3:

```
{
 "jobType" : "deployEJTemplates",
 "parameters": {
                                "Year":"2020"
                                "Period":"July"
                                "Template": ["Template 5","Template 6",
"Template 7", "Template 8"],
                                }
}
```

Example 4:

```
{
 "jobType" : "deployEJTemplates",
 "parameters": {
                                "Year":"2020"
                                "Period":"July"
                                "Template": [ ]
                                }
}
```

Response

Supported Media Types: `application/json`

Table 21-9 Parameters

Name	Description
`jobId`	Enterprise Journals job identifier
`descriptiveStatus`	Additional details about the status
`details`	Message to the user. In cases where there are errors, the error details are published.
`status`	• -1: In Progress • 0: Success • 1: Failed
`items`	Not applicable for this job type
`links`	Detailed information about the link
`rel`	Valid value: self
`href`	Links to API call
`action`	The HTTP call type

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "jobId":14013,
  "details": "In Process",
  "status": -1,
  "links": [
    {
      "rel": "self",
      "href": "https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.
oraclecloud.com/HyperionPlanning/rest/ej/v1/jobs/14013",
     "action": "GET"
    }
  "error": null,
  "items": [ ],
  "type": EPM
}
```

Retrieve Enterprise Journals for Financial Consolidation and Close

Returns the list of journals ready to validate or ready to post based on the parameter sent.

This API works only for Financial Consolidation and Close.

REST Resource

```
GET       /HyperionPlanning/rest/ej/{api_version}/ejjournals
```

Required Roles

Service Administrator

Request URL with Optional Parameters

```
GET       /HyperionPlanning/rest/ej/{api_version}/ejjournals?
Year=2018&Period=Jan&PostingStatus=ReadyToPost&ValidationStatus=ReadyToValida
te
```

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

"Year", "Period", "PostStatus" and "ValidationStatus" are optional. If "Year" and "Period" are not passed, journals from all year and period are listed.

By default, only ReadyToPost journals are listed, however you can provide any valid value for the PostingStatus parameter to get corresponding journals.

If a valid value is provided for "ValidationStatus", journals are listed based on the provided value.

Table 21-10 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with: v1	Path	Yes	None
`Year`	Year for which to list journals, for example, Year=2018. If you do not specify a Year and Period, journals from all Years and Periods are listed.	Query	No	All Years
`Period`	Period for the journal, for example: Period=Jan. If you do not specify a Year and Period, journals from all Years and Periods are listed. If you specify only Year or only Period, journals from all Years and Periods are listed.	Query	No	All Periods
`Postingstatus`	Posting status for the journal, for example: `PostingStatus=ReadyToPost` Valid values are `NotPosted`, `ReadyToPost`, `PostInProgress`, `Failed`, `Posted`	Query	No	ReadyToPost
`ValidationStatus`	Validation status for the journal. Valid Values are `NotValidated`, `ReadyToValidate`, `ValidationInProgress`, `Failed`, `Valid`	Query	No	None

Response

Supported Media Types: `application/json`

Example of Response Body

The following shows an example of the response body.

```
{
  "items": [
    {
  "year": 2020
  "period": "Jan",
  "journalId": "100000001",
  "instanceId": "100000000008821",
  "link": {
      "rel": "content",
      ""https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals/100000000008821",
      "action": "GET"
  }
```

```
  }
{
  "year": 2020
  "period": "Jan",
  "journalId": "100000002",
  "instanceId": "100000000008822",
  "link": {
      "rel": "content",
      "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals/100000000008822",
      "action": "GET"
  }
  }
],
  "link": {
      "rel": "self",
      "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals",
      "action": "GET"
}
"error": null,{
"type": "EPM"
}
```

Retrieve Enterprise Journal Content for Financial Consolidation and Close

Returns journal content for the instance identifier provided as Path parameter. Each item in the items list represents a line item of the journal.

This API works only for Financial Consolidation and Close.

REST Resource

```
GET       /HyperionPlanning/rest/ej/{api_version}/ejjournals/{instanceId}
```

Required Roles

Service Administrator

Example of Request URL

```
GET       /HyperionPlanning/rest/ej/v1/ejjournals/100000000008821
```

Supported Media Types: `application/json`

Table 21-11 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with	Path	Yes	None
instanceId	Identifier for the journal for which you want to retrieve journal content	Path	Yes	None

Example of Response Body

The following shows an example of the response body.


```
{
  "year": 2018
  "period": "Jan",
  "journalId": "100000001",
  "instanceId": "100000000008821",
  "items": [
{
      "Status Code": "NEW",
      "Ledger ID": "LNR 12000",
      "Journal Source": "EPM_EJ",
      "Journal Category": "Adjustment",
      "Currency Code": "EUR",
      "Segment 1": "100091",
      "Entered Debit Amount": "19800.00",
      "Entered Credit Amount": "0.00"
},
{
      "Status Code": "NEW",
      "Ledger ID": "LNR 12000",
      "Journal Source": "EPM_EJ",
      "Journal Category": "Adjustment",
      "Currency Code": "EUR",
      "Segment 1": "100092",
      "Entered Debit Amount": "0.00",
      "Entered Credit Amount": "19800.00"
},
{
      "Status Code": "NEW",
      "Ledger ID": "LNR 12000",
      "Journal Source": "EPM_EJ",
      "Journal Category": "Adjustment",
      "Currency Code": "EUR",
      "Segment 1": "100093",
      "Entered Debit Amount": "34900.00",
      "Entered Credit Amount": "0.00"
},
{
      "Status Code": "NEW",
```

```
      "Ledger ID": "LNR 12000",
      "Journal Source": "EPM_EJ",
      "Journal Category": "Adjustment",
      "Currency Code": "EUR",
      "Segment 1": "1000943",
      "Entered Debit Amount": "0.00",
      "Entered Credit Amount": "34900.00"
  }
],
  "links": [
{
      "rel": "self",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals/100000000008821",
      "action": "GET"
},
{
      "rel": "update_posting_status",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals/100000000008821
/poststatus",
      "action": "POST"
}
{
    "rel": "update_validation_status",
    "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals/100000000008821/validationstatus",
    "action": "POST"
}

],
"error": null,
"type": "EPM"
}
```


Retrieve Enterprise Journal Content by Year and Period for Financial Consolidation and Close

Returns Enterprise journal content for the provided Year, Period, and Journal ID. This API can be used if a user wants to query an Enterprise Journal without knowing the journal identifier.

This API works only for Financial Consolidation and Close.

REST Resource

```
GET       /HyperionPlanning/rest/ej/{api_version}/ejjournalcontent?
Year={year}&Period={period}&JournalId={journalId}
```

Required Roles

Service Administrator

Example of Request URL

```
GET       /HyperionPlanning/rest/ej/v1/ejjournalcontent?
Year=2018&Period=Jan&JournalId=100000001
```

Supported Media Types: `application/json`

Table 21-12 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`Year`	Year for which to list journal, for example, Year=2018	Query	Yes	None
`Period`	Period for the journal, for example: Period=Jan	Query	Yes	None
`JournalId`	Identifier for the journal for which you want to retrieve journal content	Query	No	If journal ID is not specified, it lists the content of all journals for the specified Year and Period.

Example of Response Body

The following shows an example of the response body.

```
{
  "year": 2018
  "period": "Jan",
  "journalId": "100000001",
  "instanceId": "100000000008821",
  "items": [
{
      "Status Code": "NEW",
      "Ledger ID": "LNR 12000",
      "Journal Source": "EPM_EJ",
      "Journal Category": "Adjustment",
      "Currency Code": "EUR",
      "Segment 1": "100091",
      "Entered Debit Amount": "19800.00",
      "Entered Credit Amount": "0.00"
},
{
      "Status Code": "NEW",
      "Ledger ID": "LNR 12000",
      "Journal Source": "EPM_EJ",
```

```
      "Journal Category": "Adjustment",
      "Currency Code": "EUR",
      "Segment 1": "100092",
      "Entered Debit Amount": "0.00",
      "Entered Credit Amount": "19800.00"
},
{
      "Status Code": "NEW",
      "Ledger ID": "LNR 12000",
      "Journal Source": "EPM_EJ",
      "Journal Category": "Adjustment",
      "Currency Code": "EUR",
      "Segment 1": "100093",
      "Entered Debit Amount": "34900.00",
      "Entered Credit Amount": "0.00"
},
{
      "Status Code": "NEW",
      "Ledger ID": "LNR 12000",
      "Journal Source": "EPM_EJ",
      "Journal Category": "Adjustment",
      "Currency Code": "EUR",
      "Segment 1": "1000943",
      "Entered Debit Amount": "0.00",
      "Entered Credit Amount": "34900.00"
  }
],
  "links": [
{
      "rel": "self",
      "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals/100000000008821",
      "action": "GET"
},
{
      "rel": "update_posting_status",
      ""https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals/100000000008821
/poststatus",
      "action": "POST"
}
],
"error": null,
"type": "EPM"
}
```


Update Enterprise Journal Posting Status for Financial Consolidation and Close

Updates the Enterprise Journal Posting status. After journal content has been read and the import to ERP begins, this API must be invoked to update the status to PostInProgress, and

after completion of posting, the status should be updated with either Posted or Failed. Error items are read-only if the Posting status is Failed.

This API works only for Financial Consolidation and Close.

REST Resource

```
POST       /HyperionPlanning/rest/ej/{api_version}/ejjournals/
{instanceId}/poststatus
```

Required Roles

Service Administrator

Example of Request URL

```
POST       /HyperionPlanning/rest/ej/v1/ejjournals/100000000008821/
Posted
```

Supported Media Types: `application/json`

Table 21-13 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with: v1	Path	Yes	None
`instanceId`	The ID of the journal for which you want to update Posting status.	Path	Yes	None
`year`	Year value of journal period	String	No	None
`period`	Period of journal	String	No	None
`journalId`	Journal ID value	String	No	None
`status`	Journal Post Status	String	Yes	None
	Note: Only "PostInProgress", "Failed" and "Posted" are supported for status value.			
`message`	Posting message to be set to the journal	String	No	None
`journalBatch`	Journal Batch represents the identifier from target ERP system for the current batch of posting.	String	No	None
`errorItems`	List of errors if any	Array	No	None

Table 21-13 (Cont.) Parameters

Name	Description	Type	Required	Default
errorCode	Identifier for the individual error	String	No	None
errorMessage	Detailed message of the error	String	No	None
entryId	Journal entry identifier, for which error has occurred	String	No	None

Example of Post In Progress:

```
{
"year": "2019",
"period": "Jan",
"journalId": "10000000012",
"status": "PostInProgress"
}
```

Example of an Error:

```
{
"year": "2019",
"period": "Jan",
"journalId": "100000001",
"status": "Failed",
"errorItems": [
{
     "errorCode": "EF04",
     "errorMessage": "The account combination is invalid.",
     "entryId": "Journal Ent 1"
},
{
     "errorCode": "EU07",
     "errorMessage": "Accounting period is not open for the ledger.",
     "entryId": "Journal Ent 2"
}
]
}
```

Example When Posted:

```
{
"year": "2021",
"period": "Jan",
"journalId": "10000000003",
"status": "Posted",
"journalBatch": "111720201001-LNR11432"
}
```

Response

```
{
"detail": "Journal 2021 Jan 10000000001 is not in 'Post In Progress'
or 'Ready to Post' status.",
"status": 400,
"message": "oracle.apps.epm.sdm.model.common.SDMModelException:
Journal 2021 Jan 10000000001 is not in 'Post In Progress' or 'Ready to
Post' status.",
"localizedMessage":
"oracle.apps.epm.sdm.model.common.SDMModelException: Journal 2021 Jan
10000000001 is not in 'Post In Progress' or 'Ready to Post' status.",
"suppressed": []
}
```

> **Note:**
>
> The maximum character limit of the following fields are:
>
> - journalBatch – 255 characters
> - errorMessage – 255 characters
> - errorCode – 20 characters
> - entryId – 500 characters

Update Validation Status of Enterprise Journals for Financial Consolidation and Close

Updates the journal validation status. Once journal content has been read, you can invoke this API to update the status to "ValidationInProgress". After completion of validation, the status must be updated as either "Valid" or "Failed". Error items are read only if validation status is "Failed".

REST Resource

```
POST  /HyperionPlanning/rest/ej/{api_version}/ejjournals/{identifier}/
validationstatus
```

Required Roles

Service Administrator

Example of Request URL

```
POST https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals/100000000008821/validationstatus
```

Supported Media Types: `application/json`

Table 21-14 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, for example, v1	Path	Yes	None
`instanceId`	Identifier for the journal for which you want to update the validation status.	Path	Yes	None
`status`	Validation status to be updated for the journal **Note:** Only "ValidationInProgress", "Failed" and "Valid" are supported for status value.	String	Yes	None
`message`	Validation message to be set to the journal	String	No	None
`errorItems`	List of errors if any **Note:** Errors are updated only if status is "Failed".	Array	No	None
`errorCode`	Identifier for the individual error	String	No	None
`errorMessage`	Detailed message of the error	String	No	None
`entryId`	Journal entry identifier, for which error has occurred	String	No	None

Example of Validation in Progress:

```
{
    "status": "ValidationInProgress",
    "message":"Validation initiated"
}
```

Example of an Error:

```
{
    "status": "Failed",
    "message":"Validation failed"
```

```
    "errorItems": [
        {
            "errorCode": "EF04",
            "errorMessage": "The account combination is invalid.",
            "entryId": "Journal Ent 1"
        },
        {
            "errorCode ": "EU07",
            "errorMessage ": "Accounting period is not open for the
ledger.",
            "entryId ": "Journal Ent 2"
        }
    ]
}
```

Example of Response Body:

```
{
      "items": [
                        "Journal validation status updated
successfully."
                 ],
      "links": [
                        {
                             "rel": "self",
                             "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/ej/v1/ejjournals/100000000006929/validationstatus",
                             "action": "POST"
                         }
                ]
}
```

22

Tax Reporting REST APIs

Use the Tax Reporting REST APIs to get the REST API version, to import supplementation data, copy data, clear data, and deploy form templates.

URL Structure for Tax Reporting

Use the following URL structure to access the Tax Reporting REST resources:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/{api_version}/{path)
```

Where:

api_version—API version you are developing with. The current REST API version for Tax Reporting is v3.

path—Identifies the resource

Getting API Versions for Tax Reporting APIs

You can get information on REST API versions using REST resources. See Getting API Versions for Planning. Tax Reporting APIs use the same version numbers as Planning.

Get Information about a Specific API Version for Tax Reporting

Returns details for a specific REST API version for Tax Reporting.

REST Resource

```
GET /HyperionPlanning/rest/{api_version}
```

Required Roles

Service Administrator, Power User, User, Viewer

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 22-1 Parameters

Name	Description
`api_version`	Version of the API you are developing with, such as V1

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 22-2 Parameters

Name	Description
`version`	The version, such as V3

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
"version": "v1",
"lifecycle": "active",
"isLatest": true,
"links": [{
"rel": "canonical",
"href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v2"
}, {
"rel": "predecessor-version",
"href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v1"
}]
}
```

Copy Data

This REST API is used to execute a Copy Data job using the job name. Before executing this job, you should create a Copy Data job in Tax Reporting.

For details on this task, see "Using Copy Data Job" in *Administering Tax Reporting*

This REST API returns the job ID after starting the Copy Data job.

REST Resource

POST `/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Table 22-3 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None
`application`	The name of the application Get the application name by using the Get Applications API, for example, FCCS or TRCS. See Get Applications.	Path	Yes	None
`jobName`	Name of the job should be: `Execute Profile`	Payload	Yes	None
`jobType`	Type of Job. Supported value: `COPY_DATA`	Payload	Yes	None
`ProfileName`	Name of the saved copy data job	Payload	Yes	None

Example of Request Body

```
{
"jobType": "COPY_DATA",
"jobName": "Execute Profile",
"parameters": {
   "ProfileName": "CopyJobTesting"
 }
}
```

Response Body

Supported Media Types: `application/json`

Table 22-4 Parameters

Name	Description
`type`	Tax Reporting Application type, for example, TRCS
`status`	Status of the job: -1 =In progress; 0 = Success; 1 = Fail
`details`	In case of errors, details are published with the error string.
`descriptiveStatus`	The status of the job, such as Completed or Error
`items`	Collection of Notification categories
`links`	Detailed information about the link
`href`	Links to API call

Table 22-4 (Cont.) Parameters

Name	Description
action	The HTTP call type
rel	Relationship type. Possible values: self

Example of Response Body:

The following shows an example of the response body in JSON format.

```
{
    "jobId": 45,
    "jobName": "Copy Data",
    "descriptiveStatus": "Processing",
    "details": null,
    "status": -1,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/<applicationName>/jobs/<JobId>",
            "rel": "self",
            "action": "GET"
        },
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/<applicationName>/jobs/<JobId>/details",
            "rel": "job-details",
            "action": "GET"
        }
    ]
}
```

Clear Data

This REST API is used to execute a Clear Data job using the profile name. Before executing this job, you should create a Clear Data job in Tax Reporting.

For details on this task, see "Using Clear Data Jobs" in *Administering Tax Reporting*

This REST API returns the job ID after starting the job.

REST Resource

POST `/HyperionPlanning/rest/{api_version}/applications/{application}/jobs`

Required Roles

Service Administrator

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request parameters specific to this job.

Table 22-5 Clear Data

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with: v3	Path	Yes	None
`application`	The name of the application Get the application name by using the Get Applications API, for example, FCCS or TRCS. See Get Applications.	Path	Yes	None
`jobName`	Name of the job should be: `Execute Profile`	Payload	Yes	None
`jobType`	Type of Job. Supported value: `CLEAR_DATA`	Payload	Yes	None
`ProfileName`	Name of the saved clear data job	Payload	Yes	None

Example of Request Body

```
{
  "jobType": "CLEAR_DATA",
  "jobName": "Execute Profile",
     "parameters": {
             "ProfileName": "ClearJobTesting"
      }
}
```

Response Body

Supported Media Types: `application/json`

Table 22-6 Parameters

Name	Description
`type`	Tax Reporting Application type, for example, TRCS
`status`	Status of the job: -1 =In progress; 0 = Success; 1 = Fail

Table 22-6 (Cont.) Parameters

Name	Description
details	In case of errors, details are published with the error string.
descriptiveStatus	The status of the job, such as Completed or Error
items	Collection of Notification categories
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type. Possible values: self

Example of Response Body

The following is an example of the response body in JSON format.

```
{
  "jobId": 46,
  "jobName": "Clear Data",
    "descriptiveStatus": "Processing",
    "details": null,
    "status": -1,
    "links": [
        {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/<applicationName>/jobs/<JobId>",
            "rel": "self",
            "action": "GET"
        },
        {
            "href":"https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/
rest/v3/applications/<applicationName>/jobs/<JobId>/details",
            "rel": "job-details",
            "action": "GET"
        }
    ]
}
```

23

Enterprise Profitability and Cost Management REST APIs

Related Topics

- URL Structure for Enterprise Profitability and Cost Management
- Getting API Versions for Enterprise Profitability and Cost Management
  You can get information on REST API versions using REST resources.
- Getting Information About a Specific REST API Version for Enterprise Profitability and Cost Management
  Returns information about a specific REST API version for Enterprise Profitability and Cost Management.
- Calculate Model
  Runs the calculation on a given point of view in a selected cube. This API supports batch calculation with multiple POVs.
- Clear Data By Point of View
  Clears the data for a given point of view in a selected cube.
- Copy Data by Point of View
  Copies data from a source to a destination point of view in a selected cube.
- Delete Point of View
  Deletes the data associated with a point of view from the calculation cube.
- Generate Model Documentation Report
  Generates an Enterprise Profitability and Cost Management Model Documentation report.
- Validate Model
  Automates the calculation process for validating a model.

URL Structure for Enterprise Profitability and Cost Management

Use the following URL structure to access the Enterprise Profitability and Cost Management REST resources:

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/
HyperionPlanning/rest/{api_version}/{path)
```

Where:

api_version—API version you are developing with. The current REST API version for Enterprise Profitability and Cost Management is v3.

path—Identifies the resource

Getting API Versions for Enterprise Profitability and Cost Management

You can get information on REST API versions using REST resources.

Important: The version number is case-sensitive. For example, if the version number is listed as `v3` with a lowercase `v`, you cannot enter the version number with a capital `V` as in this incorrect example, `V3`, which would result in an error. Instead, you must enter the version number with a lowercase `v` as in this correct example: `v3`.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using REST APIs requires prerequisites. See Prerequisites.

There are two sets of REST APIs relevant for Enterprise Profitability and Cost Management.

- Planning REST APIs (See Getting API Versions for Planning).
- Enterprise Profitability and Cost Management-specific REST APIs. (See Getting Information About a Specific REST API Version for Enterprise Profitability and Cost Management).

Getting Information About a Specific REST API Version for Enterprise Profitability and Cost Management

Returns information about a specific REST API version for Enterprise Profitability and Cost Management.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

```
GET /HyperionPlanning/rest/{api_version}
```

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the client request.

Table 23-1 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are working with, such as V3	Path	Yes	None

Response Body

Supported Media Types: `application/json`

The following table summarizes the response parameters.

Table 23-2 Parameters

Attribute	Description
`version`	v3
`lifecycle`	Lifecycle of the resource, active or deprecated
`isLatest`	Whether this resource is the latest, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "version": "v3",
    "lifecycle": "active",
    "isLatest": true,
    "links": [{
        "rel": "canonical",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v3"
    }, {
        "rel": "predecessor-version",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/HyperionPlanning/rest/v2"
    }]
}
```

Calculate Model

Runs the calculation on a given point of view in a selected cube. This API supports batch calculation with multiple POVs.

This is an asynchronous call, so use the job status URI to determine whether the operation is complete.

This API is version v3.

Required Roles

Service Administrators

REST Resource

POST `/HyperionPlanning/rest/v3/applications/{AppName}/jobs/`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the client request parameters specific to this job

Table 23-3 Parameters

Name	Description	Type	Required	Default
`jobType`	`Calculation`	Payload	Yes	None
`jobName`	Name of the job **Example**: `"Calculation"`	Payload	Yes	None
`povDelimiter`	Delimiter used in POV values. The default delimiter is _ (under score). The delimiter must be enclosed in double quotation marks. Only these delimiters are supported: • _ (under score) • # (hash) • & (ampersand) • ~ (tilde) • % (percentage) • ; (semicolon) • : (colon) • - (dash) **Example**: `"povDelimiter":":"` **Note:** When submitting multiple POVs for calculation, do not use a comma as the delimiter to separate POV members. Comma is reserved for separating POV groups as shown in this example: `FY21:Jan:Actual:Working,FY21:Feb:Actual:Working,FY21:Mar:Actual:Working`	Payload	Yes	:: (Double Colon)
`povName`	Name of the POV to calculate. You can pass one or more POVs separated by a comma (,). **Example**: `"sourcePOVName":"FY16:May:Actual:Working"`	Payload	Yes	None
`modelName`	Name of the model to calculate **Example**: `"modelName":"10 Actuals Allocation Process"`	Payload	Yes	None

Table 23-3 (Cont.) Parameters

Name	Description	Type	Required	Default
executionType	(ALL_RULES | RULESET_SUBSET | SINGLE_RULE | RUN_FROM_RULE | STOP_AFTER_RULE) Identifies the rule execution type • If executionType=ALL_RULES, rule related parameters are not required. • If executionType=SINGLE_RULE | RUN_FROM_RULE|STOP_AFTER_RULE, then provide ruleName only. • If executionType=RULESET_SUBSET, then provide values for rulesetSeqNumStart and rulesetSeqNumEnd. **Example**: "executionType":"ALL_RULES"	Payload	Yes	None
ruleName	Name of the single rule to run **Example**: "ruleName":"Utlities Expense Adjustment"	Payload	No	None
rulesetSeqNumStart	Sequence number of the first rule in the rule set to run **Example**: "rulesetSeqNumStart:1"	Payload	No	None
rulesetSeqNumEnd	Sequence number of the last rule in the rule set to run **Example**: "rulesetSeqNumStart:10"	Payload	No	None
clearCalculatedData	(True | False) Specifies whether to clear existing calculations **Example**: "clearCalculatedData":"true",	Payload	No	False
executeCalculations	(True | False) Specifies whether to run calculations **Example**: "executeCalculations":"true"	Payload	No	False
optimizeForReporting	(True | False) Specifies whether to optimize the calculation process for reporting When running multiple concurrent calculation jobs, set optimizeReporting=true for all jobs. Only the last job to complete will perform the aggregation, which avoids redundant processing and prevents running jobs from slowing down. Set optimizeReporting=false only when necessary to save processing time; for example, when running a single rule or a sequential series of several POVs. **Example**: "optimizeForReporting":"false",	Payload	No	False
captureDebugScripts	(True | False) Specifies whether to generate debug scripts **Example**: "captureDebugScripts":"false"	Payload	No	False
comment	Comment to describe the job	Payload	No	None

Sample Payload

```
{
    "jobType":"Calculation",
    "jobName":"Calculation",
    "parameters":{
        "povDelimiter":":",
        "povName":"FY21:Jan:Actual:Working",,
        "modelName":"10 Actuals Allocation Process",
        "executionType":"ALL_RULES",
        "rulesetSeqNumStart":"1",
        "rulesetSeqNumEnd":"1",
        "clearCalculatedData":"true",
        "executeCalculations":"true",
        "optimizeForReporting":"true",
        "captureDebugScripts":"false"
    }
}
```

Response Body

Supported Media Types: `application/json`

Table 23-4 Parameters

Name	Description
`jobId`	ID of the job that is created
`jobName`	Name of the job
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes.
`links`	Detailed information about the link
`href`	Links to the API call
`action`	HTTP call type
`rel`	Can be `self` and/or `Job-details`. If set to `Job Status`, you can use the `href` to get the status of the job.
`data`	Parameters as key value pairs passed in the request

Examples of Response Body

The examples show the response body in JSON format.

Example 1: Job in progress

```
{
    "jobId": 26,
    "jobName": "Calculation",
    "status": -1,
    "descriptiveStatus": "Processing",
    "details": null,
    "links": [
        {
```

```
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/26",
            "action": "GET",
            "rel": "self",
        },
        {
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/26/details",
",
            "action": "GET",
            "rel": "job-details "
        }
    ]
}
```

Example 2: Job status with no errors

```
{
    "jobId": 26,
    "jobName": "Calculation",
    "status": 0,
    "descriptiveStatus": "Success",
    "details": null
    "links": [
        {
            "rel": "self"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
jobs/26",
            "action": "GET",
        },
 {
            "rel": "job-details"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
jobs/26/details",
            "action": "GET",
        }

    ]
}
```

Clear Data By Point of View

Clears the data for a given point of view in a selected cube.

This is an asynchronous call, so use the job status URI to determine whether the operation is complete.

This API is version v3.

Required Roles

Service Administrators

REST Resource

POST `/HyperionPlanning/rest/v3/applications/{AppName}/jobs/`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the client request parameters specific to this job.

Table 23-5 Parameters

Name	Description	Type	Required	Default
`jobType`	`Clear POV`	Payload	Yes	None
`jobName`	Name of the job **Example**: `"Clear POV"`	Payload	Yes	None
`povDelimiter`	Delimiter used in POV values. The delimiter must be enclosed in double quotation marks. Other than a comma, only these delimiters are supported: • _ (under score) • # (hash) • & (ampersand) • ~ (tilde) • % (percentage) • ; (semicolon) • : (colon) • - (dash) **Example**: `"povDelimiter":":"` **Note:** When submitting multiple POVs for calculation, do not use a comma as the delimiter to separate POV members. Comma is reserved for separating POV groups as shown in this example: `FY21:Jan:Actual:Working,FY21:Feb:Actual:Working,FY21:Mar:Actual:Working`	Payload	Yes	:: (Double Colon)
`povName`	Name of the POV to clear **Example**: `"povName":"to FY21:Jan:Actual:Working"`	Payload	Yes	None
`cubeName`	Name of the cube on which clear operation is to be executed **Example**: `"cubeName":"PCM_CLC"`	Payload	Yes	PCM_CLC

Table 23-5 (Cont.) Parameters

Name	Description	Type	Required	Default
clearInput	(True|False) Specifies whether to clear input data **Example**: `"clearInput":"true"`	Payload	Yes	None
clearAllocatedValues	(True|False) Specifies whether to clear allocated data **Example**: `"clearAllocatedValues":"true"`	Payload	Yes	None
clearAdjustmentValues	(True|False) Specifies whether to clear adjustment data **Example**: `"clearAdjustmentValues":"true"`	Payload	Yes	None

Sample Payload

```
{
   "jobType":"Clear POV",
   "jobName":"Clear POV",
   "parameters":{
        "povDelimiter":":",
        "povName":"FY21:Jan:Actual:Working",
        "cubeName":"PCM_CLC",
        "clearInput":"true",
        "clearAllocatedValues":"true",
        "clearAdjustmentValues":"true"
   }
}
```

Response Body

Supported Media Types: `application/json`

Table 23-6 Parameters

Name	Description
jobId	ID of the job that is created
jobName	Name of the job
details	In case of errors, details are published with the error string
status	See Migration Status Codes.
links	Detailed information about the link
href	Links to the API call
action	HTTP call type
rel	Can be `self` and/or `Job-details`. If set to `Job Status`, you can use the `href` to get the status of the job.
data	Parameters as key value pairs passed in the request

Examples of Response Body

The examples show the response body in JSON format.

Example 1: Job in progress

```
{
    "jobId": 26,
    "jobName": "Clear POV",
    "status": -1,
    "descriptiveStatus": "Processing",
    "details": null,
    "links": [
        {
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/
applications/BksML40/jobs/26",
            "action": "GET",
            "rel": "self",
        },
        {
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/
applications/BksML40/jobs/26/details",
",
            "action": "GET",
            "rel": "job-details "
        }
    ]
}
```

Example 2: Job status with no errors

```
{
    "jobId": 26,
    "jobName": " Copy POV",
    "status": 0,
    "descriptiveStatus": "Success",
    "details": null
    "links": [
        {
            "rel": "self"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/
applications/jobs/26",
            "action": "GET",
        },
 {
            "rel": "job-details"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/
applications/jobs/26/details",
            "action": "GET",
        }
```

Copy Data by Point of View

Copies data from a source to a destination point of view in a selected cube.

This is an asynchronous call, so use the job status URI to determine whether the operation is complete.

This API is version v3.

Required Roles

Service Administrators

REST Resource

POST `/HyperionPlanning/rest/v3/applications/{AppName}/jobs/`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the client request parameters specific to this job.

Table 23-7 Parameters

Name	Description	Type	Required	Default
`jobType`	`Copy POV`	Payload	Yes	None
`jobName`	Name of the job **Example**: `"Copy POV"`	Payload	Yes	None
`povDelimiter`	Delimiter used in POV values. The delimiter must be enclosed in double quotation marks. Other than a comma, only these delimiters are supported: • _ (under score) • # (hash) • & (ampersand) • ~ (tilde) • % (percentage) • ; (semicolon) • : (colon) • - (dash) **Example**: `"povDelimiter":":"` **Note:** When submitting multiple POVs for calculation, do not use a comma as the delimiter to separate POV members. Comma is reserved for separating POV groups as shown in this example: `FY21:Jan:Actual:Working,FY21:Feb:Actual:Working,FY21:Mar:Actual:Working`	Payload	Yes	:: (Double Colon)
`sourcePOVName`	Name of the source POV **Example**: `"sourcePOVName":"FY21:Jan:Actual:Working "`	Payload	Yes	None

Table 23-7 (Cont.) Parameters

Name	Description	Type	Required	Default
destPOVName	Name of the destination POV **Example**: "destinationPOVName":"FY21:Feb:Actual:Working"	Payload	Yes	None
copyType	(ALL_DATA|INPUT) specifies the data to copy from the source **Example**: "copyType":"ALL_DATA"	Payload	Yes	None
sourceCubeName	Name of the source Oracle Essbase cube **Example**: "sourceCubeName":"PCM_CLC"	Payload	Yes	None
destCubeName	Name of the destination Essbase cube **Example**: "destCubeName":"PCM_CLC"	Payload	Yes	None

Sample Payload

```
{
   "jobType":"Copy POV",
   "jobName":"Copy POV",
   "parameters":{
        "povDelimiter":":",
        "sourcePOVName":"FY21:Jan:Actual:Working",
        "destPOVName":"FY21:Feb:Actual:Working",
        "sourceCubeName":"PCM_CLC",
        "destCubeName":"PCM_CLC",
        "createDestPOV":"true",
       "copyType":"ALL_DATA"
   }
}
```

Response Body

Supported Media Types: application/json

Table 23-8 Parameters

Name	Description
jobId	ID of the job that is created
jobName	Name of the job
details	In case of errors, details are published with the error string
status	See Migration Status Codes.
links	Detailed information about the link
href	Links to the API call
action	HTTP call type
rel	Can be self and/or Job-details. If set to Job Status, you can use the href to get the status of the job.

Table 23-8 (Cont.) Parameters

Name	Description
data	Parameters as key value pairs passed in the request

Examples of Response Body

The examples show the response body in JSON format.

Example 1: Job in progress

```
{
    "jobId": 26,
    "jobName": "Copy POV",
    "status": -1,
    "descriptiveStatus": "Processing",
    "details": null,
    "links": [
        {
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/26",
            "action": "GET",
            "rel": "self",
        },
        {
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/26/details",
",
            "action": "GET",
            "rel": "job-details "
        }
    ]
}
```

Example 2: Job status with no errors

```
{
    "jobId": 26,
    "jobName": " Copy POV",
    "status": 0,
    "descriptiveStatus": "Success",
    "details": null
    "links": [
        {
            "rel": "self"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
jobs/26",
            "action": "GET",
        },
 {
            "rel": "job-details"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
jobs/26/details",
```

```
        "action": "GET",
    }
```

Delete Point of View

Deletes the data associated with a point of view from the calculation cube.

This is an asynchronous call, so use the job status URI to determine whether the operation is complete.

This API is version v3.

Required Roles

Service Administrators

REST Resource

POST `/HyperionPlanning/rest/v3/applications/{AppName}/jobs/`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the client request parameters specific to this job.

Table 23-9 Parameters

Name	Description	Type	Required	Default
`jobType`	`Delete POV`	Payload	Yes	None
`jobName`	Name of the job **Example**: `"Delete POV"`	Payload	Yes	None

Table 23-9 (Cont.) Parameters

Name	Description	Type	Required	Default
`povDelimiter`	Delimiter used in POV values. The delimiter must be enclosed in double quotation marks. Other than a comma, only these delimiters are supported: • _ (under score) • # (hash) • & (ampersand) • ~ (tilde) • % (percentage) • ; (semicolon) • : (colon) • - (dash) **Example**: `"povDelimiter":":"` **Note:** When submitting multiple POVs for calculation, do not use a comma as the delimiter to separate POV members. Comma is reserved for separating POV groups as shown in this example: `FY21:Jan:Actual:Working,FY21:Feb:Actual:Working,FY21:Mar:Actual:Working`	Payload	Yes	:: (Double Colon)
`povName`	Name of the POV to delete **Example**: `"povName":"FY21:Jan:Actual:Working"`	Payload	Yes	None

Sample Payload

```
{
   "jobType":"Delete POV",
   "jobName":"Delete POV",
   "parameters":{
        "povDelimiter":":",
        "povName":"FY21:Jan:Actual:Working"
   }
}
```

Response Body

Supported Media Types: `application/json`

Table 23-10 Parameters

Name	Description
`jobId`	ID of the job that is created
`jobName`	Name of the job
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes.
`links`	Detailed information about the link
`href`	Links to the API call

Table 23-10 (Cont.) Parameters

Name	Description
`action`	HTTP call type
`rel`	Can be `self` and/or `Job-details`. If set to `Job Status`, you can use the `href` to get the status of the job.
`data`	Parameters as key value pairs passed in the request

Examples of Response Body

The examples show the response body in JSON format.

Example 1: Job in progress

```
{
    "jobId": 26,
    "jobName": "Delete POV",
    "status": -1,
    "descriptiveStatus": "Processing",
    "details": null,
    "links": [
        {
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/
applications/BksML40/jobs/26",
            "action": "GET",
            "rel": "self",
        },
        {
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/
applications/BksML40/jobs/26/details",
",
            "action": "GET",
            "rel": "job-details "
        }
    ]
}
```

Example 2: Job status with no errors

```
{
    "jobId": 26,
    "jobName": " Delete POV",
    "status": 0,
    "descriptiveStatus": "Success",
    "details": null
    "links": [
        {
            "rel": "self"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/
applications/jobs/26",
            "action": "GET",
        },
```

```
 {
            "rel": "job-details"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
jobs/26/details",
            "action": "GET",
        }

    ]
}
```

Generate Model Documentation Report

Generates an Enterprise Profitability and Cost Management Model Documentation report.

This is an asynchronous call, so use the job status URI to determine whether the operation is complete.

Any validation failures are written to file with file name provided in the parameters, and can be accessed from Inbox/Outbox Explorer.

This API is version v3.

Required Roles

Service Administrators

REST Resource

POST `/HyperionPlanning/rest/v3/applications/{AppName}/jobs/`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the client request parameters specific to this job.

Table 23-11 Parameters

Name	Description	Type	Required	Default
`jobType`	`Generate EPCM Report`	Payload	Yes	None
`jobName`	User-specified name for this job execution **Example**: `"Model Documentation Report for 10 Actuals Allocation Process"`	Payload	Yes	None
`reportName`	`"MODEL_DOC"`	Payload	Yes	None

Table 23-11 (Cont.) Parameters

Name	Description	Type	Required	Default
outputFileName	Name of the output file to which the report will be generated **Example:** "My_Model_Doc_Report_Output"	Payload	Yes	None
outputType	(PDF | Word | Excel | HTML | XML) Format in which the output will be generated **Example:** "PDF"	Payload	Yes	None
modelName	Name of model for which the report is generated **Example:** "10 Actuals Allocation Process"	Payload	Yes	None

Sample Payload

```
{
   "jobType":"Generate EPCM Report",
   "jobName":"Model Documentation Report for 10 Actuals Allocation
Process",
   "parameters":{
        "reportName":"MODEL_DOC",
        "outputFileName":"My_Model_Doc_Report_Output",
        "outputType":"PDF",
        "modelName":"10 Actuals Allocation Process"
  }
}
```

Response Body

Supported Media Types: application/json

Table 23-12 Parameters

Name	Description
jobId	ID of the job that is created
jobName	Name of the job
details	In case of errors, details are published with the error string
status	See Migration Status Codes.
links	Detailed information about the link
href	Links to the API call
action	HTTP call type
rel	Can be self and/or Job-details. If set to Job Status, you can use the href to get the status of the job.
data	Parameters as key value pairs passed in the request

Examples of Response Body

The examples show the response body in JSON format.

Example 1: Job in progress

```
{
    "jobId": 26,
    "jobName": "Generate Report",
    "status": -1,
    "descriptiveStatus": "Processing",
    "details": null,
    "links": [
         {
            "rel": "self",
            "href":http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/6,
            "action": "GET"
         },
         {
            "rel": "job-details",
            "href":http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/6/details,
            "action": "GET"
        }
    ]
}
```

Example 2: Job status with no errors

```
{
    "jobId": 26,
    "jobName": "Generate Report",
    "status": 0,
    "descriptiveStatus": "Success",
    "details": null
    "links": [
        {
            "rel": "self",
            "href":http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/6,
            "action": "GET"
        },
        {
            "rel": "job-details",
            "href":http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/6/details,
            "action": "GET"
        }
    ],
}
```

Validate Model

Automates the calculation process for validating a model.

This is an asynchronous call, so use the job status URI to determine whether the operation is complete.

Any validation failures are written to file with file name provided in the parameters, and can be accessed from Inbox/Outbox Explorer.

This API is version v3.

Required Roles

Service Administrators

REST Resource

POST `/HyperionPlanning/rest/v3/applications/{AppName}/jobs/`

> **Note:**
>
> Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Request

Supported Media Types: `application/json`

The following table summarizes the client request parameters specific to this job.

Table 23-13 Parameters

Name	Description	Type	Required	Default
`jobType`	`Validate Model`	Payload	Yes	None
`jobName`	Name of the job **Example**: `"Validate Model"`	Payload	Yes	None
`modelName`	Name of the model to validate **Example**: `"modelName":"10 Actuals Allocation Process"`	Payload	Yes	None
`fileName`	Name of the output file to which all the validations (if any) will be written **Example**: `"fileName":"results.txt"`	Payload	Yes	None

Sample Payload

```
{
   "jobType":"Validate Model",
   "jobName":"Validate Model",
   "parameters":{
       "modelName":"10 Actuals Allocation Process",
       "fileName":"results.txt"
```

```
    }
}
```

Response Body

Supported Media Types: `application/json`

Table 23-14 Parameters

Name	Description
`jobId`	ID of the job that is created
`jobName`	Name of the job
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes.
`links`	Detailed information about the link
`href`	Links to the API call
`action`	HTTP call type
`rel`	Can be `self` and/or `Job-details`. If set to `Job Status`, you can use the `href` to get the status of the job.
`data`	Parameters as key value pairs passed in the request

Examples of Response Body

The examples show the response body in JSON format.

Example 1: Job in progress

```
{
    "jobId": 26,
    "jobName": "Validate Model",
    "status": -1,
    "descriptiveStatus": "Processing",
    "details": null,
    "links": [
        {
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/26",
            "action": "GET",
            "rel": "self",
        },
        {
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/applications/
BksML40/jobs/26/details",
",
            "action": "GET",
            "rel": "job-details "
        }
    ]
}
```

Example 2: Job status with no errors

```
{
    "jobId": 26,
    "jobName": "validate Model",
    "status": 0,
    "descriptiveStatus": "Success",
    "details": null
    "links": [
        {
            "rel": "self"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/
applications/jobs/26",
            "action": "GET",
        },
 {
            "rel": "job-details"
            "href": "http://<epm_host>/HyperionPlanning/rest/v3/
applications/jobs/26/details",
            "action": "GET",
        }

    ]
}
```

24

Profitability and Cost Management REST APIs

Related Topics

- URL Structure for Profitability and Cost Management
- Getting API Versions for Profitability and Cost Management REST APIs
- Apply Data Grants
  Applies data grants for a given Profitability and Cost Management application.
- Copy ML POV Data
  Copies model artifacts and data from a Source POV combination to a Destination POV combination for any application. Use with Management Ledger applications.
- Create File-Based Application
  Creates an application using a flat file using a REST API.
- Deploy ML Cube
  Deploys or redeploys the calculation cube for a selected Profitability and Cost Management application.
- Enable File-Based Application
  Enables an application using a flat file.
- Essbase Data Load for Profitability and Cost Management
  Loads input data to an Oracle Essbase application.
- Export Query Results
  Exports query results for a given query or exports all Oracle Essbase data into a file in the Outbox.
- Export Template for Profitability and Cost Management
  Exports Profitability and Cost Management applications as a template into the Outbox.
- Generate Program Documentation Report
  Generates a Program Documentation report for a given Profitability and Cost Management point of view.
- Generate Program Documentation Report - Run as a Job
  Submits a job to generate a Program Documentation report for a given Profitability and Cost Management point of view.
- Import Template for Profitability and Cost Management
  Imports a template zip file as an application from the inbox.
- Merge Slices for Profitability and Cost Management
  Merges all incremental data slices into the main database slices.
- Optimize ASO Cube
  Optimizes the performance of queries for data extraction by creating aggregate views in ASO cubes for Profitability and Cost Management applications.
- Retrieve Task Status for Profitability and Cost Management
  Displays the current status of the job process name.

- Run ML Calculations
  Runs or clears calculations for a selected application. You can run calculations using rules in a model POV against data in a different data POV without copying rules.
- Run ML Clear POV
  Clears model artifacts and data from a POV combination for any application.
- Run ML Rule Balancing
  Retrieves Rule Balancing data for a particular POV for a given application.
- Update Dimensions As a Job
  Uploads a new dimension flat file for an application created using a flat file.
- Update File-Based Application
  Uploads a new dimension flat file for an application created using a flat file.

URL Structure for Profitability and Cost Management

Use the following URL structure to access the Profitability and Cost Management REST resources:

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/
{api_version}/{path)
```

Where:

api_version—API version you are developing with. The current REST API version for is V1.

path—Identifies the resource

Getting API Versions for Profitability and Cost Management REST APIs

You can manage versions using the set of REST resources summarized in the following table.

Before using the REST resources, you must understand how to access the REST resources and other important concepts. See Implementation Best Practices for EPM Cloud REST APIs. Using this REST API requires prerequisites. See Prerequisites.

Table 24-1 Manage Versions of Profitability and Cost Management APIs

Task	Request	REST Resource
Get API Versions for Profitability and Cost Management REST APIs	GET	`/epm/rest/`
Get Information about a Specific API Version for Profitability and Cost Management	GET	`/epm/rest/{apiVersion}`

Get API Versions for Profitability and Cost Management REST APIs

Returns information about which versions are available and supported. Multiple versions might be supported simultaneously.

> **Note:**
>
> An API version is always supported even when deprecated.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

`GET /epm/rest/`

Request

Supported Media Types: `application/json`

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 24-2 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`items`	Version of the API you are developing with
`version`	The version, such as v1
`lifecycle`	Possible values: active, deprecated
`isLatest`	Whether this resource is the latest, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
    "items": [{
        "isLatest": false,
        "lifecycle": "deprecated",
        "version": "11.1.2.4.000",
        "links": [{
            "href": "https://<SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/
11.1.2.4.000",
            "rel": "canonical"
        }, {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1",
            "rel": "successor-version"
        }]
    }, {
        "isLatest": true,
        "lifecycle": "active",
        "version": "v1",
        "links": [{
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1",
            "rel": "canonical"
        }, {
            "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/
11.1.2.4.000",
            "rel": "predecessor-version"
        }]
    }],
    "links": [{
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/
11.1.2.4.000",
        "rel": "canonical"
    }, {
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1",
        "rel": "current"
    }]
}
```

Java Sample – GetRestAPIVersionsInfo.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void getRestAPIVersionsInfo() throws Exception {
        String urlString = String.format("%s/epm/rest", serverUrl);
        String response = executeRequest(urlString, "GET", null,
"application/json");
        System.out.println("Response String : " + response);
        JSONObject jsonObj = new JSONObject(response);
        JSONArray itemsArray = jsonObj.getJSONArray("items");
        System.out.println("Details : " + itemsArray.toString());
    }
```

cURL Sample – GetRestAPIVersionInfo.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL

```
 funcGetRestAPIVersionInfo()
{
    url=$SERVER_URL/epm/rest/$API_VERSION
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"
    status=$?
    echo "status code :$status"
    output='cat response.txt'
    if [ $status == 200 ]; then
        echo "Version $API_VERSION details :"
        count='echo $output | jq '.links | length''
        i=0
        while [ $i -lt $count ]; do
            echo "Service : " 'echo $output | jq '.links['$i'].rel''
            echo "URL :" 'echo $output | jq '.links['$i'].href''
            echo "Action :" 'echo $output | jq '.links['$i'].action''
            echo ""
            i='expr $i + 1'
        done
    else
        error='echo $output'
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – GetRestAPIVersionsInfo.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def getRestAPIVersionsInfo() {
                def url;
                def response;
    try {
                        url = new URL(serverUrl + "/epm/rest");
    } catch (MalformedURLException e) {
             println "Malformed URL. Please pass valid URL"
             System.exit(0);
    }
    response = executeRequest(url, "GET", null, "application/json");
    def object = new JsonSlurper().parseText(response)

                if(object != null) {
                     def items = object.items
                     println "Rest API Versions Info : " + items
```

```
    } else {
                        println "Error occurred while fetching rest api
versions details"
    }
}
```

Get Information about a Specific API Version for Profitability and Cost Management

Returns details for a specific REST API version for Profitability and Cost Management.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

`GET /epm/rest/`

Request

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 24-3 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, such as V1	Path	Yes	None

Response

Supported Media Types: `application/json`

Parameters

The following table summarizes the parameters.

Table 24-4 Parameters

Name	Description
`version`	The version, such as v1
`lifecycle`	Possible values: active, deprecated
`isLatest`	Whether this resource is the latest, true or false

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "items": [{
      "version": "v1",
      "lifecycle": "active",
      "isLatest": true,
      "links": [{
        "rel": "canonical",
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1",
      }, {
         "rel": "predecessor-version",
         "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1",
     }]
   }],
   "links": [{
      "rel": "current",
      "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1"
   }]
}
```

Apply Data Grants

Applies data grants for a given Profitability and Cost Management application.

This API submits a job to remove all existing data grants in Oracle Essbase and recreate them with the latest information from the application. It can also be used to repair data grants if there are any issues.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/jobs/applyDataGrants`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-5 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, such as `v1`	Path	Yes	None

Table 24-5 (Cont.) Parameters

Name	Description	Type	Required	Default
application	Name of the application to create	Path	Yes	None

Example URL

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applications/BksML30/jobs/applyDataGrants
```

Response Body

Supported Media Types: `application/json`

Table 24-6 Parameters

Name	Description
details	Task ID, such as BksML12_BksML12_LoadData_D20160118T051020_ba8_1
status	See Migration Status Codes
statusMessage	Message about the status, such as Success
type	Profitability
data	Parameters as key value pairs
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_ApplyDataGrants_D20220511T114653_b85",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applications/jobs/ChecktaskStatusJob/
BksML30_ApplyDataGrants_D20220511T114653_b85",
         "action":"GET",
         "rel":"Job Status"
      }
```

```
    ]
}
```

Java Sample – applyDataGrants.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void applyDataGrants() throws Exception {


        String urlString = "%s/epm/rest/%s/applications/%s/jobs/
applyDataGrants";
        executeJob(urlString, "POST", null);
    }
```

cURL Sample – ApplyDataGrants.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcApplyDataGrants() {

    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/jobs/
applyDataGrants
    funcExecuteRequest "POST" $url "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Data Grants successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"

}
```

Groovy Sample – ApplyDataGrants.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
    def applyDataGrants() {
    String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
```

```
applications/" + appName +"/jobs/applyDataGrants";
    def url;

try {
     url = new URL(urlString)
       } catch (MalformedURLException e) {
     println "Malformed URL. Please pass valid URL"
     System.exit(0);
       }

    executeJob(url, "POST", null);
 }
```

Copy ML POV Data

Copies model artifacts and data from a Source POV combination to a Destination POV combination for any application. Use with Management Ledger applications.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/povs/{srcPOVMemberGroup}/jobs/copyPOVJob/{destPOVMemberGroup}`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-7 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application for which to deploy the cube	Path	Yes	None
`srcPOVMemberGroup`	Source POV member group, such as 2014_January_Actual	Path	Yes	None
`destPOVMemberGroup`	Destination POV member group, such as 2014_March_Actual	Path	Yes	None
`isManageRule`	Whether to copy the program rule details	Payload	Yes	None
`isInputData`	Whether to copy input data **Note**: Do not set the value of this parameter to true if the value of `isAllData` or `isAllInputData` is set to true.	Payload	Yes	None
`modelViewName`	Whether to copy a slice of data from source POV to destination POV	Payload	No	Nothing copied
`isAllInputData`	Whether to copy all input data at the NoRule member, including AdjustmentIn/Out	Form	No	False
`isAllData`	Whether to copy all POV data	Form	No	False

Table 24-7 (Cont.) Parameters

Name	Description	Type	Required	Default
createDestPOV	Whether to create the destination POV if it does not already exist	Payload	Yes	None
nonEmptyTupleEnabled	Specifies whether to enable the Non Empty Tuple (NET). Valid values are *true* and *false*. In some cases, the default nonEmptyTupleEnabled=true does not perform well when copying the Oracle Essbase data. In those cases, use nonEmptyTupleEnabled=false to improve performance.	Payload	No	True
stringDelimiter	String delimiter for POV group members	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/LM1T2/povs/2014_January_Actual/jobs/copyPOVJob/2014_March_Actual
```

```
{"isManageRule":"true","isInputData":"true","modelViewName":"Operating Expenses","createDestPOV":"true","nonEmptyTupleEnabled":"true","stringDelimiter":"_"}
```

Response Body

Supported Media Types: `application/json`

Table 24-8 Parameters

Name	Description
details	Task ID, such as LM1T2_LM1T2_CopyMLPOV_D20160113T065943_75b_1
status	See Migration Status Codes
statusMessage	Message about the status, such as In Progress
type	Profitability
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
```

```
   "statusMessage":"In Progress",
   "details":"BksML30_CopyMLPOV_D20220511T114800_7ad",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applications/jobs/ChecktaskStatusJob/
BksML30_CopyMLPOV_D20220511T114800_7ad",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – CopyPOV.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
  public void copyPOVData() throws Exception {

        JSONObject json = new JSONObject();                String
modelViewName = "Operating Expenses";
        json.put("isManageRule", true);
        json.put("isInputData", true);
        json.put("modelViewName", modelViewName);
        json.put("createDestPOV", true);
        json.put("stringDelimiter", "_");

        String sourcePovGroupMember = "2014_January_Actual";
        String destPovGroupMember = "2014_December_Actual";

        String urlString = "%s/epm/rest/%s/applications/%s/povs/" +
sourcePovGroupMember.trim().replaceAll(" ", "%20")
                                          + "/jobs/copyPOVJob/"+
destPovGroupMember.trim().replaceAll(" ", "%20");
        executeJob(urlString, "POST", json.toString());
    }
```

cURL Sample – CopyPOV.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcCopyPOVData() {
    stringDelimiter="_";    modelViewName="Operating Expenses";
    destPovGroupMember="2014_December_Actual";

param="{\"isManageRule\":\"true\",\"isInputData\":\"true\",\modelViewNa
me\":\"$modelViewName\",\"createDestPOV\":\"true\",\"stringDelimiter\":
\"$stringDelimiter\"}"
```

```
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/
povs/$POV_GROUP_MEMBER/jobs/copyPOVJob/$destPovGroupMember
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Copying POV successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Java Sample – CopyPOV.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
  public void copyPOVData() throws Exception {

        JSONObject json = new JSONObject();                String
modelViewName = "Operating Expenses";
        json.put("isManageRule", true);
        json.put("isInputData", true);
        json.put("modelViewName", modelViewName);
        json.put("createDestPOV", true);
        json.put("stringDelimiter", "_");

        String sourcePovGroupMember = "2014_January_Actual";
        String destPovGroupMember = "2014_December_Actual";

        String urlString = "%s/epm/rest/%s/applications/%s/povs/" +
sourcePovGroupMember.trim().replaceAll(" ", "%20")
                                        + "/jobs/copyPOVJob/"+
destPovGroupMember.trim().replaceAll(" ", "%20");
        executeJob(urlString, "POST", json.toString());
    }
```

Create File-Based Application

Creates an application using a flat file using a REST API.

Required Roles

Service Administrator

REST Resource

POST `/epm/rest/{api_version}/fileApplications/{application}`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-9 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application to create	Path	Yes	None
`description`	User comment for this application	Payload	Yes	None
`ruleDimensionName`	Rule dimension name	Payload	Yes	None
`balanceDimensionName`	Balance dimension name	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
fileApplications/BksML12
```

```
{"description":
"description","ruleDimensionName":"Rule","balanceDimensionName":"Balance"}
```

Response Body

Supported Media Types: `application/json`

Table 24-10 Parameters

Name	Description
`details`	Task ID, such as `BksML12_BksML12_LoadData_D20160118T051020_ba8_1`
`status`	See Migration Status Codes
`statusMessage`	Message about the status, such as `Success`
`type`	Profitability
`data`	Parameters as key value pairs
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
```

```
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_UpdateDimensions_D20220513T062046_c61",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/
jobs/ChecktaskStatusJob/BksML30_UpdateDimensions_D20220513T062046_c61",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – CreateFlatFileApplication.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
  public void createFlatFileApplication() throws Exception {

        JSONObject json = new JSONObject();
        json.put("description", "Flat file based application");
        json.put("ruleDimensionName", "Rule");
        json.put("balanceDimensionName", "Balance");

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
fileApplications/" + "BksML13";
        String response = executeRequest(urlString, "POST", json.toString(),
"application/json");

        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");

        if(resStatus == 0) {
            System.out.println("Application created successfully");
        } else {
            System.out.println("Application creation failed");
        }
  }
```

cURL Sample – CreateFlatFileApplication.sh for Profitability and Cost Management

```
funcCreateFlatFileApplication() {
    description="Flat file based application";
    ruleDimensionName="Rule"
    balanceDimensionName="Balance"
```

```
param="{\"description\":\"$description\",\"ruleDimensionName\":\"$ruleD
imensionName\",\"balanceDimensionName\":\"$balanceDimensionName\"}"
    url=$SERVER_URL/epm/rest/$API_VERSION/fileApplications/BksML13
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Application created successfully"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – CreateFlatFileApplication.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def createFlatFileApplication() {

        JSONObject json = new JSONObject();
        json.put("description", "Flat file based application");
        json.put("ruleDimensionName", "Rule");
        json.put("balanceDimensionName", "Balance");

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
fileApplications/" + "BksML13";

        def url;

        try {
                url = new URL(urlString)
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
                System.exit(0);
        }

        String response = executeRequest(url, "POST", json.toString(),
"application/json")

        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");

        if(resStatus == 0) {
            println "Application created successfully"
        } else {
            println "Application creation failed"
```

```
        }
}
```

Deploy ML Cube

Deploys or redeploys the calculation cube for a selected Profitability and Cost Management application.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/jobs/ledgerDeployCubeJob`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-11 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application for which to deploy the cube	Path	Yes	None
`isKeepData`	Specify whether to preserve existing data	Payload	Yes	None
`isReplaceCube`	Specify whether to replace existing cube	Payload	Yes	None
`isRunNow`	Run now or schedule for later. (Schedule for later is not currently supported.)	Payload	Yes	None
`comment`	Any user comments	Payload	Yes	None

> **Note:**
>
> Both *isKeepData* and *isReplaceCube* cannot be true at the same time.

Example URL and Payload

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/{applicationName}/jobs/ledgerDeployCubeJob`

```
{"isKeepData":"true","isRunNow":"true","comment":"Test Ml Deploy"}
```

Response Body

Supported Media Types: `application/json`

Table 24-12 Parameters

Name	Description
`details`	In case of errors, details are published with the error string
`status`	See Migration Status Codes
`statusMessage`	Message about the status, such as `In Progress`
`type`	Profitability
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_DeployCube_D20220511T114550_da1",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applications/jobs/ChecktaskStatusJob/
BksML30_DeployCube_D20220511T114550_da1",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – DeployCube.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void deployCube() throws Exception {
        JSONObject json = new JSONObject();
        json.put("isKeepData", true);
        json.put("isReplaceCube", false);
        json.put("isRunNow", true);
        json.put("comment", "Cube deployment");

        String urlString = "%s/epm/rest/%s/applications/%s/jobs/
ledgerDeployCubeJob";
        executeJob(urlString, "POST", json.toString());
    }
```

cURL Sample – DeployCube.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcDeployCube() {
    comment="Cube deployment Curl"

param="{\"isKeepData\":\"false\",\"isReplaceCube\":\"true\",\"isRunNow\":\"tr
ue\",\"comment\":\"$comment\"}"
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/jobs/
ledgerDeployCubeJob
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Deploying Cube successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – DeployCube.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def deployCube() {

        JSONObject json = new JSONObject();
        json.put("isKeepData", true);
        json.put("isReplaceCube", false);
```

```
        json.put("isRunNow", true);
        json.put("comment", "Cube deployment");

        def url;
        def response;

        try {
                 url = new URL(serverUrl + "/epm/rest/" + apiVersion +
"/applications/" + appName + "/jobs/ledgerDeployCubeJob")
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
                System.exit(0);
       }

        executeJob(url, "POST", json.toString());
}
```

Enable File-Based Application

Enables an application using a flat file.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/fileApplications/{application}/enableApplication`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-13 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application to enable	Path	Yes	None

Example URL

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/fileApplications/BksML12/enableApplication`

Response Body

Supported Media Types: `application/json`

Table 24-14 Parameters

Name	Description
details	Task ID, such as BksMl12_BksMl12_EnableApplication_D20160113T075011_53c_1
status	See Migration Status Codes
statusMessage	Message about the status, such as Success
type	Profitability
data	Parameters as key value pairs
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_EnableApplication_D20220511T114947_65c",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/
jobs/ChecktaskStatusJob/BksML30_EnableApplication_D20220511T114947_65c",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – EnableApplication.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void enableApplication() throws Exception {
        String urlString = "%s/epm/rest/%s/fileApplications/%s" +"/
enableApplication";
        executeJob(urlString, "POST", null);
    }
```

cURL Sample – EnableApplication.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcEnableApplication() {
    url=$SERVER_URL/epm/rest/$API_VERSION/fileApplications/$APP_NAME/
enableApplication
    funcExecuteRequest "POST" $url "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Enabling Application successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – EnableApplication.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def enableApplication() {

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
fileApplications/"+ appName +"/enableApplication";
        def url;

        try {
                url = new URL(urlString)
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
                System.exit(0);
        }
        executeJob(url, "POST", null);
}
```

Essbase Data Load for Profitability and Cost Management

Loads input data to an Oracle Essbase application.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/jobs/essbaseDataLoadJob`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-15 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application for which to load the data	Path	Yes	None
`clearAllDataFlag`	Whether to clear existing data (`true`) or not (`false`)	Payload	Yes	None
`dataLoadValue`	Possible values are `ADD_EXISTING_VALUES` or `OVERWRITE_EXISTING_VALUES`	Payload	Yes	None
`dataFileName`	Name of the data file already present in the inbox folder	Payload	Yes	None

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/BksML12/jobs/essbaseDataLoadJob
```

```
{"clearAllDataFlag":"true","dataLoadValue":"OVERWRITE_EXISTING_VALUES","dataFileName":"input.txt"}
```

Response Body

Supported Media Types: `application/json`

Table 24-16 Parameters

Name	Description
`details`	Task ID, such as `BksML12_BksML12_LoadData_D20160118T051020_ba8_1`
`status`	See Migration Status Codes
`statusMessage`	Message about the status, such as `Success`
`type`	Profitability
`data`	Parameters as key value pairs
`links`	Detailed information about the link

Table 24-16 (Cont.) Parameters

Name	Description
href	Links to API call
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_LoadData_D20220511T114654_8bf",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applications/jobs/ChecktaskStatusJob/
BksML30_LoadData_D20220511T114654_8bf",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – EssbaseDataLoad.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void loadData() throws Exception {

        JSONObject json = new JSONObject();
        json.put("clearAllDataFlag", false);
        json.put("dataLoadValue", "ADD_EXISTING_VALUES");
        json.put("dataFileName", "BksML12C.txt");

        String urlString = "%s/epm/rest/%s/applications/%s/jobs/
essbaseDataLoadJob";
        executeJob(urlString, "POST", json.toString());

    }
```

cURL Sample – EssbaseDataLoad.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcLoadData() {
    dataLoadValue="ADD_EXISTING_VALUES"
    dataFileName="BksML12C.txt"

param="{\"clearAllDataFlag\":\"false\",\"dataLoadValue\":\"$dataLoadValue\",\
"dataFileName\":\"$dataFileName\"}"
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/jobs/
essbaseDataLoadJob
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Loading Data successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – EssbaseDataLoad.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def loadData() {

        JSONObject json = new JSONObject();
        json.put("clearAllDataFlag", false);
        json.put("dataLoadValue", "ADD_EXISTING_VALUES");
        json.put("dataFileName", "BksML12C.txt");

        def url;
        def response;

        try {
                url = new URL(serverUrl + "/epm/rest/" + apiVersion + "/
applications/" + appName + "/jobs/essbaseDataLoadJob")
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
                System.exit(0);
```

```
        }
        executeJob(url, "POST", json.toString());
}
```

Export Query Results

Exports query results for a given query or exports all Oracle Essbase data into a file in the Outbox.

When exporting all Essbase data, there is an option for writing the output in columnar format, and columnar-formatted data can be filtered by level-0 dimension members. This API triggers a job that can be monitored in the Job Library.

Required Roles

Service Administrator, Power User, User, Viewer

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/jobs/exportQueryResultsJob`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-17 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, such as `v1`	Path	Yes	None
`application`	Name of the application	Path	Yes	None
`exportOnlyLevel0Flg`	Whether to export only Level0 data; values are `true` or `false`	Payload	No	false
`fileName`	Name of the query output file to be exported into the Outbox folder	Payload	Yes	None
`fileOutputOptions`	File output options. Available options are: • `ZIP_ONLY` • `ZIP_AND_TEXT` • `TEXT_ONLY`	Payload	No	`ZIP_ONLY`
`queryName`	Query name from the Profitability and Cost Management application When `queryName` has a value, results for the given query are exported; `exportOnlyLevel0Flg` is considered if it is included. When `queryName` is blank or not included, data for the entire application is exported. In this case, `exportOnlyLevel0Flg` is ignored.	Payload	No	None

Table 24-17 (Cont.) Parameters

Name	Description	Type	Required	Default
roundingPrecision	The rounding precision (decimal places) for exported data. (**Note:** Applies only if queryName is also used.)	Payload	No	2
dataFormat	Select the output format as native Essbase format, or as columnar format. Values are NATIVE or COLUMNAR. With the COLUMNAR option, all Essbase data is exported, so the queryName parameter is ignored. Data can be filtered using the memberFilters parameter.	Payload	No	NATIVE
The following parameters are only considered when dataFormat=COLUMNAR.				
memberFilters	Accepts a JSON formatted string for dimension and respective level-0 member format. For example: {\"Dim1\":[\"Mem1\"],\"Dim2\":[\"Mem21\",\"Mem22\"]}	Payload	No	None
includeHeader	Adds dimension names as column headers. Values are true or false.	Payload	No	true
delimiter	Character used to separate dimension members in the results file; must be enclosed in double quotes.	Payload	No	Space
keepDuplicateMemberFormat	When this parameter is set to true, prints member names in Essbase duplicate member format, such as [Account]@[Accoun1]. If set to false, only the member name is printed.	Payload	No	true

Example URL and Payload

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/Ex3F3/jobs/exportQueryResultsJob
```

```
{"queryName":"Profitability - Product","fileName":"ProfitabilityProduct_03232016.txt","exportOnlyLevel0Flg":"true","roundingPrecision":"3"}
```

Response Body

Supported Media Types: application/json

Table 24-18 Parameters

Name	Description
details	Task ID, such as BksML12_BksML12_ExportQueryResults_D20160323T024820_f73_1
status	See Migration Status Codes
statusMessage	Message about the status, such as In Progress
type	Profitability
data	Parameters as key value pairs
links	Detailed information about the link

Table 24-18 (Cont.) Parameters

Name	Description
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_ExportQueryResults_D20220511T114843_935",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applications/jobs/ChecktaskStatusJob/
BksML30_ExportQueryResults_D20220511T114843_935",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – ExportQueryResult.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void exportTemplate() throws Exception {
        String fileName = applicationName + "_Template_Export_File";

        JSONObject json = new JSONObject();
        json.put("fileName", fileName);

        String urlString = "%s/epm/rest/%s/applications/%s/jobs/
templateExportJob";
        executeJob(urlString, "POST", json.toString());

    }
```

cURL Sample – ExportQueryResult.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcExportQueryResult() {
    queryName="Profitability - Product";
    fileName=$APP_NAME+"_"+$queryName+"_Query_Result"

param="{\"queryName\":\"$queryName\",\"fileName\":\"$fileName\",\"exportOnlyL
evel0Flg\":\"false\"}"
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/jobs/
exportQueryResultsJob
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Exporting successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – ExportQueryResult.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def exportQueryResult() {
        String queryName = "Profitability - Product";
        String fileName = appName +"_"+ queryName + "_Query_Result";

        JSONObject json = new JSONObject();
        json.put("queryName", queryName);
        json.put("fileName", fileName);
        json.put("exportOnlyLevel0Flg", false);

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/" + appName + "/jobs/exportQueryResultsJob";

        def url;

         try {
                url = new URL(urlString)
```

```
            } catch (MalformedURLException e) {
                    println "Malformed URL. Please pass valid URL"
                    System.exit(0);
            }
        executeJob(url, "POST", json.toString());
}
```

Export Template for Profitability and Cost Management

Exports Profitability and Cost Management applications as a template into the Outbox.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/jobs/templateExportJob?fileName={fileName}`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-19 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application	Path	Yes	None
`fileName`	Name of the template zip file to be exported to the outbox folder	Query	Yes	None

> **Note:**
>
> If the file name is the same as an existing file name, this will override content in existing file.

Example URL and Payload

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/BksML30/jobs/templateExportJob{"fileName":"testFile"}`

Response Body

Supported Media Types: `application/json`

Table 24-20 Parameters

Name	Description
details	Task ID, such as BksML30_ExportTemplate_D20180201T210316_a80
status	See Migration Status Codes
statusMessage	Message about the status, such as In Progress
type	Profitability
data	Parameters as key value pairs
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_ExportTemplate_D20220511T114738_16e",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/
jobs/ChecktaskStatusJob/BksML30_ExportTemplate_D20220511T114738_16e",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – ExportTemplate.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void exportTemplate() throws Exception {
        String fileName = applicationName + "_Template_Export_File";

        JSONObject json = new JSONObject();
        json.put("fileName", fileName);

        String urlString = "%s/epm/rest/%s/applications/%s/jobs/
templateExportJob";
```

```
        executeJob(urlString, "POST", json.toString());

    }
```

cURL Sample – ExportTemplate.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcExportTemplate() {
    fileName=$APP_NAME+"_Template_Export_File"
    param="{\"fileName\":\"$fileName\"}"
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/jobs/
templateExportJob
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Exporting successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – ExportTemplate.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def exportTemplate() {
        String fileName = appName + "_Template_Export_File";

        JSONObject json = new JSONObject();
        json.put("fileName", fileName);

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/" + appName + "/jobs/templateExportJob";

        def url;

        try {
                url = new URL(urlString)
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
```

```
                System.exit(0);
        }
        executeJob(url, "POST", json.toString());
}
```

Generate Program Documentation Report

Generates a Program Documentation report for a given Profitability and Cost Management point of view.

The report is generated in the profitoutbox folder with the name `HPCMMLProgramDocumentationReport_{AppName)_{POV}.pdf`. The file can be downloaded using File Explorer.

Required Roles

Service Administrator, Power User, User, or Viewer

REST Resource

GET `epm/rest/{api_version}/applications/{application}/povs/{POV}/programDocumentationReport?queryParameter={"fileType":"PDF","useAlias":"true"}`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-21 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, such as `v1`	Path	Yes	None
`application`	Name of the application for which to create the report	Path	Yes	None
`pov`	The POV for which to create the report, for example, FY17_JUN_Actual_Working	Path	Yes	None
`fileType`	The file format to use for the report, `PDF`, `XML`, `WORD`, `EXCEL`, or `HTML`	Query	No	`PDF`
`useAlias`	Boolean value to specify whether to use aliases in the report, `true` or `false`t	Query	No	`false`

Example URL with `fileType` set to `PDF` and `useAlias` set to `true`:

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/BksML30/povs/2016_January_Actual/programDocumentationReport?queryParameter={"fileType":"PDF","useAlias":"true"}`

Response Body

Supported Media Types: `application/json`

Table 24-22 Parameters

Name	Description
details	Program Documentation report name, such as HPCMMLProgramDocumentationReport_BksML30_2016_January_Actual.pdf, and report status
status	See Migration Status Codes
statusMessage	Message about the status, such as Success
type	Profitability
data	Parameters as key value pairs
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":0,
   "statusMessage":"Success",
   "details":"Program Documentation report
HPCMMLProgramDocumentationReport_BksML30_2016_January_Actual.pdf
generated successfully in the Outbox folder."
}
```

Java Sample – GeneratePrgrmDocReport.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void generatePrgrmDocReport() throws Exception {

        JSONObject json = new JSONObject();
        json.put("fileType", "PDF");
        json.put("useAlias", false);
        json.put("stringDelimter", "_");

        String povGroupMember = "2016_January_Actual";

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/" + applicationName + "/povs/" +
```

```
povGroupMember.trim().replaceAll(" ", "%20") + "/programDocumentationReport";
        urlString = urlString + "?" + "queryParameter=" + json.toString();

        String response = executeRequest(urlString, "GET", null,
"application/json");
        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");

        if(resStatus == 0) {
            System.out.println("Program Documentation Report Generated
Successfully");
        }
        String details = jsonObj.getString("details");
        System.out.println(details);

    }
```

cURL Sample – GeneratePrgDocReport.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcGeneratePrgDocReport() {
        url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/
povs/$POV_GROUP_MEMBER1/programDocumentationReport
        echo $url
        curl -G "$url" --data-urlencode
'queryParameter={"fileType":"PDF","stringDelimter":"_","useAlias":"false"}' -
u "$USERNAME:$PASSWORD" -o "response.txt" -D "respHeader.txt"
        output=`cat response.txt`
        status=`echo $output | jq '.status'`
        echo $status
    if [ $status == 0 ]; then
        echo "Program Documentation Report generated successfully"
        message=`echo $output | jq '.details'`
        echo $message
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"

}
```

Groovy Sample – GeneratePrgrmDocReport.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def generateProgramDocReportJob() {
    JSONObject json = new JSONObject();
    json.put("fileName", "2016JanActual.pdf");
    json.put("fileType", "PDF");
    json.put("useAlias", false);
    json.put("stringDelimter", "_");

String povGroupMember = "2016_January_Actual";
String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/"
+ appName + "/povs/" + povGroupMember.trim().replaceAll(" ", "%20") +
"/
jobs/programDocReportJob";

def url;
try {
    url = new URL(urlString)
} catch (MalformedURLException e) {
    println "Malformed URL. Please pass valid URL"
    System.exit(0);
}
executeJob(url, "POST", json.toString());
}
```

Generate Program Documentation Report - Run as a Job

Submits a job to generate a Program Documentation report for a given Profitability and Cost Management point of view.

The report is generated in the profitoutbox folder with the name as fileName parameter value or `HPCMMLProgramDocumentationReport_{AppName)_{POV}.pdf` as default. The file can be downloaded using File Explorer or by using the EPM Automate `downloadfile` command.

Required Roles

Service Administrator, Power User, User, or Viewer

REST Resource

POST

`/epm/rest/{api_version}/applications/<applicationName>/povs/<povName>/jobs/programDocReportJob`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-23 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with, such as `v1`	Path	Yes	None
`applicationName`	Name of the application for which to create the report	Path	Yes	None
`povName`	The POV for which to create the report, for example, FY17_JUN_Actual_Working	Path	Yes	None
`fileType`	The file format to use for the report, `PDF`, `XML`, `WORD`, `EXCEL`, or `HTML`	Request Payload	No	PDF
`fileName`	Name of the output file	Request Payload	No	`HPCMMLProgramDocumentationReport_<AppName>_POV.pdf`
`subsetStart`	Rule set starting sequence number to specify a range of rule sets to include in the report	Request Payload	No	None
`subsetEnd`	Rule set ending sequence number to specify a range of rule sets to include in the report	Request Payload	No	None
`useAlias`	Boolean value to specify whether to use aliases in the report, `true` or `false`	Request Payload	No	False
`stringDelimiter`	POV Dimension members separator	Request Payload	No	"_"

Example URL

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/ epm/rest/v1/applications/<applicationName>/povs/<povName>/jobs/programDocReportJob
```

Request Payload

```
{
     "fileName":"FY12ActualReport.pdf",
     "fileType": "PDF",
     "subsetStart":"1",
     "subsetEnd":"6",
     "useAlias": false,
     "stringDelimiter":"_"
}
```

Response Body

Supported Media Types: `application/json`

Table 24-24 Parameters

Name	Description
`details`	Program Documentation report name, such as `HPCMMLProgramDocumentationReport_BksML30_2016_January_Actual.pdf`, and report status

Table 24-24 (Cont.) Parameters

Name	Description
`status`	See Migration Status Codes
`statusMessage`	Message about the status, such as `Success`
`type`	Profitability
`data`	Parameters as key value pairs
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"Program Documentation report 2016JanActual1.pdf
generated successfully in the Outbox folder.",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applications/jobs/ChecktaskStatusJob/
BksML30_ProgramDocumentation_D20220511T115113_52a",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – GeneratePrgrmDocReport.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
public void generateProgramDocReportJob() throws Exception {
    JSONObject json = new JSONObject();
    json.put("fileName", "2016JanActual1.pdf");
    json.put("fileType", "PDF");
    json.put("subsetStart", "1");
    json.put("subsetEnd", "6");
    json.put("useAlias", false);
```

```
    json.put("stringDelimiter", "_");
    String povGroupMember = "2016_January_Actual";
    String urlString = serverUrl + "/epm/rest/"+ apiVersion +
      "/applications/" + applicationName + "/povs/" +
      povGroupMember.trim().replaceAll(" ", "%20") +
      "/jobs/programDocReportJob";
    executeJob(urlString, "POST", json.toString());
}
```

cURL Sample – GeneratePrgDocReport.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcProgramDocReportJob() {
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/
povs/$POV_GROUP_MEMBER1/jobs/programDocReportJob
        stringDelimter="_";

param="{\"fileName\":\"2016JanActual.pdf\",\"fileType\":\"PDF\",\"subsetStart
\":\"1\",\"subsetEnd\":\"6\",
\"useAlias\":\"false\",\"stringDelimter\":\"$stringDelimiter\"}"

        echo $param
    funcExecuteRequest "POST" $url $param "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started program doc report generation"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – GeneratePrgrmDocReport.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def generateProgramDocReportJob() {
    JSONObject json = new JSONObject();
    json.put("fileName", "2016JanActual");
    json.put("fileType", "PDF");
    json.put("subsetStart", "1");
```

```
    json.put("subsetEnd", "6");
    json.put("useAlias", false);
    json.put("stringDelimter", "_");
    String urlString = serverUrl + "/epm/rest/"+ apiVersion +
        "/applications/" + appName + "/povs/" +
        povGroupMember.trim().replaceAll(" ", "%20") +
        "/jobs/programDocReportJob";
    def url;
    try {
          url = new URL(urlString)
    } catch (MalformedURLException e) {
          println "Malformed URL. Please pass valid URL"
          System.exit(0);
    }
    executeJob(url, "POST", json.toString());
}
```

Import Template for Profitability and Cost Management

Imports a template zip file as an application from the inbox.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/jobs/templateImportJob`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-25 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application	Path	Yes	None
`description`	User comment for the application	Payload	Yes	None
`fileName`	Name of the template zip file to be imported from the inbox folder	Payload	Yes	None
`isApplicationOverwrite`	Whether to override an application if one already exists with same name. Values are *true* or *false*.	Payload	Yes	None

Example URL and Payload

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/Ex3F3/jobs/templateImportJob`

```
{"description":"description","fileName":"
testFile12345.zip","isApplicationOverwrite":"true"}
```

Response Body

Supported Media Types: `application/json`

Table 24-26 Parameters

Name	Description
`details`	Task ID, such as `TD_ae61e427d9ab4d6f99e3b87378fa1c94`
`status`	See Migration Status Codes
`statusMessage`	Message about the status, such as `In Progress`
`type`	Profitability
`data`	Parameters as key value pairs
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_ImportTemplate_D20220511T114059_d3b",
   "links":[
      {
         "href":"http:// :// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/
jobs/ChecktaskStatusJob/BksML30_ImportTemplate_D20220511T114059_d3b",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – ImportTemplate.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void importTemplate() throws Exception {

        JSONObject json = new JSONObject();
```

```
        json.put("description", "Import Template");
        json.put("instanceName", "PROFITABILITY_WEB_APP");
        json.put("essApplicationServer", "EssbaseCluster-1");
        json.put("sharedServicesProject", "EssbaseCluster-1");
        json.put("applicationType", "Management Ledger");
        json.put("fileName", "HPCM_BksML12_20160128_200053.zip");
        json.put("isApplicationOverwrite", true);

        String urlString = "%s/epm/rest/%s/applications/%s/jobs/
templateImportJob";
        executeJob(urlString, "POST", json.toString());

    }
```

cURL Sample – ImportTemplate.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcImportTemplate() {
    description="Import Template through Curl Sample"
    instance="PROFITABILITY_WEB_APP"
    essAppServer="EssbaseCluster-1"
    sharedServicesProject="EssbaseCluster-1"
    applicationType="Management Ledger"
    fileName="PCM_BksML12_20160413_042937.zip"
    isApplicationOverwrite="true"

param="{\"description\":\"$description\",\"instanceName\":\"$instance\"
,\"essApplicationServer\":\"$essAppServer\",\"sharedServicesProject\":\
"$sharedServicesProject\",\"applicationType\":\"$applicationType\",\"fi
leName\":\"$fileName\",\"isApplicationOverwrite\":\"$isApplicationOverw
rite\"}"
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/jobs/
templateImportJob
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started importing successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – ImportTemplate.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def importTemplate() {

        JSONObject json = new JSONObject();
        json.put("description", "Import Template");
        json.put("instanceName", "PROFITABILITY_WEB_APP");
        json.put("essApplicationServer", "EssbaseCluster-1");
        json.put("sharedServicesProject", "EssbaseCluster-1");
        json.put("applicationType", "Management Ledger");
        json.put("fileName", "BksML12_Template.zip");
        json.put("isApplicationOverwrite", true);

        def url;
        def response;

        try {
                url = new URL(serverUrl + "/epm/rest/" + apiVersion + "/
applications/" + appName + "/jobs/templateImportJob")
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
                System.exit(0);
        }
        println "URL : " + url
        println "Payload : " + json.toString()
        executeJob(url, "POST", json.toString());

}
```

Merge Slices for Profitability and Cost Management

Merges all incremental data slices into the main database slices.

Optionally, removes the Oracle Essbase cells with zero values to make the cube compact.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/jobs/mergeSlices`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-27 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with	Path	Yes	None
application	Name of the Profitability and Cost Management application	Path	Yes	None
removeZeroCells	If "true", removes cells with zero values	Path	No	"false"

Request URI Example

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applicaitions/BksML30/jobs/mergeSlices
```

Request Payload:

```
  {
   "removeZeroCells":"true"
   )
```

Response Body

Supported Media Types: application/json

Table 24-28 Parameters

Name	Description
details	In case of errors, details are published with the error string.
status	See Migration Status Codes
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Can be self and/or Job Status. If set to Job Status, you can use the href to get the status of the import operation.
data	Parameters as key value pairs passed in the request

Example of Response Body

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_MERGE_CUBE_D20220511T115052_771",
   "links":[
      {
"href":"http:// <SERVICE_NAME>-
```

```
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/
jobs/ChecktaskStatusJob/BksML30_MERGE_CUBE_D20220511T115052_771",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Optimize ASO Cube

Optimizes the performance of queries for data extraction by creating aggregate views in ASO cubes for Profitability and Cost Management applications.

This command allows you to perform query optimization operations on ASO cubes in cases where default aggregation is deemed insufficient to meet your data extraction or reporting needs because of large data size. The typical optimzation process is as follows:

- Drop default and query-based aggregations.
- Start query tracking.
- Run sample queries from Profitability and Cost Management Query Manager, Oracle Smart View for Office (Windows), or Data Management, and any other MDX queries representative of the type of queries for which optimization is desired to train Oracle Essbase.
- Create aggregation based on optimized or default queries.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/v1/applications/{AppName}/jobs/optimizeASOCube`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-29 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`appName`	Name of the application used to run Optimize ASO	Path	Yes	None

Table 24-29 (Cont.) Parameters

Name	Description	Type	Required	Default
`type`	Type of operation. Valid values are: • `clearAggregations` removes default and query-based views. • `createAggregations` creates default Essbase aggregate views. Use this option to perform default aggregation instead of query-based aggregation. • `startQueryTracking` starts query tracking. Use this option to allow Essbase to collect optimization information for creating query-based aggregations. • `stopQueryTracking` stops query tracking. Use this option to stop Essbase from collecting optimization information. Essbase continues to collect optimization information until you stop query tracking or stop Essbase.) • `createQBOAggregations` creates Essbase aggregate views based on the optimized queries that you run after enabling query tracking.	Form	Yes	None

Response Body

Supported Media Types: `application/json`

Table 24-30 Parameters

Name	Description
`details`	In case of errors, details are published with the error string.
`status`	See Migration Status Codes
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Can be `self` and/or `Job Status`. If set to `Job Status`, you can use the `href` to get the status of the import operation.
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_OptimizeASOCube_D20220511T115135_55d",
```

```
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/
jobs/ChecktaskStatusJob/BksML30_OptimizeASOCube_D20220511T115135_55d",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – OptimizeASOCube.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void optimizeASOCube() throws Exception {

        JSONObject json = new JSONObject();
        json.put("type", "createAggregations");

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/" + applicationName+"/jobs/optimizeASOCube";
        executeJob(urlString, "POST", json.toString());

    }
```

cURL Sample – OptimizeASOCube.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcOptimizeASOCube() {
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/jobs/
optimizeASOCube
        param="{\"type\":\"createAggregations\"}"
                echo $param
     funcExecuteRequest "POST" $url $param "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Optimize ASO Cube successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
```

```
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – OptimizeASOCube.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def optimizeASOCube() {

        JSONObject json = new JSONObject();
        json.put("type", "createAggregations");

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/" + appName +  "/jobs/optimizeASOCube";

        def url;
    try {
        url = new URL(urlString)
    } catch (MalformedURLException e) {
            println "Malformed URL. Please pass valid URL"
            System.exit(0);
        }

        executeJob(url, "POST", json.toString());
    }
```

Retrieve Task Status for Profitability and Cost Management

Displays the current status of the job process name.

Required Roles

Service Administrator, Power User

REST Resource

GET `/epm/rest/{api_version}/applications/jobs/ChecktaskStatusJob/{processName}`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-31 Parameters

Name	Description	Type	Required	Default
api_version	Version of the API you are developing with	Path	Yes	None
applications	Included in the path	Path	Yes	None
processName	The ID of the process or task flow for which to check the task status	Path	Yes	None

Response Body

Supported Media Types: application/json

The following table summarizes the response parameters.

Table 24-32 Parameters

Name	Description
processName	The Process Name or TaskflowId, such as RBkML1_ExportTemplate_D20160112T025419_836
task	Task name, such as ExportTemplate
status	Task status, such as Success

Example of Response Body

```
{
    "type": "Profitability",
    "links": [{
        "href": "https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/
jobs/ChecktaskStatusJob/RBkML1_ExportTemplate_D20160112T025419_836",
        "action": "GET",
        "rel": "self"
    }],
    "status": 0,
    "details":
"ExportTemplate=Success,RBkML1_ExportTemplate_D20160112T025419_836=Done",
    "statusMessage": "Success"
}
```

Run ML Calculations

Runs or clears calculations for a selected application. You can run calculations using rules in a model POV against data in a different data POV without copying rules.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/povs/{povGroupMember}/jobs/runLedgerCalculationJob`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-33 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application for which to run calculations	Path	Yes	None
`povGroupMember`	The model POV group member from which the rules will be used for calculations, such as `2016_January_Actual` If *dataPOVName* is not passed, *povGroupMember* is used as both model and data POV.	Path	Yes	None
`dataPOVName`	The data POV group member for which to run calculations, such as `2015_January_Actual` `exeType=ALL_RULES` is the valid combination while using *dataPOVName*.	Payload	No	None
`isClearCalculated`	Whether to clear the calculation data, `true` or `false`	Payload	No	None
`isRunNow`	Whether to run now (`true`) or schedule for later (`false`); schedule for later is not currently supported	Payload	Yes	`true`
`optimizeReporting`	Whether to optimize for reporting (`true`) or not (`false`). When *optimizieReporting* is used, Profitability and Cost Management runs default aggregations on the Essbase cube when the calculation is complete. You can also run this setting by itself, which improves performance for queries and analytics. If you don't pass this parameter, its setting is assumed to be `true` ("About Optimizing for Reporting" in *Administering Profitability and Cost Management*).	Payload	No	`true`
`subsetStart`	Rule Set Starting Sequence Number	Payload	No	None
`subsetEnd`	Rule Set Ending Sequence Number	Payload	No	None
`ruleName`	Rule Name for a `SINGLE_RULE` option	Payload	No	None
`ruleSetName`	Rule Set Name for a `SINGLE_RULE` option	Payload	No	None

Table 24-33 (Cont.) Parameters

Name	Description	Type	Required	Default
exeType	The execution type specifies which rules to run; possible values are ALL_RULES, RULESET_SUBSET, SINGLE_RULE. Other parameters are required based on the exeType value: • *exeType* = ALL_RULES overrides all other options like subsetStart, subsetEnd, ruleSetName, and ruleName. • *exeType* = RULESET_SUBSET considers only subsetStart and subsetEnd. • *exeType* = SINGLE_RULE considers only ruleSetName and ruleName.	Payload	Yes	None
comment	Use comment text, such as "This is run by user1"	Payload	No	None
stringDelimiter	String delimiter for POV group members, such as _	Payload	No	None

Example URL and Payload without Passing Data POV

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/{api_version}/applications/{application}/povs/{povGroupMember}/jobs /runLedgerCalculationJob
```

```
{"isClearCalculated":"true","isExecuteCalculations":"true","isRunNow":"true","optimizeReporting":"false","comment":"This is run by user1","exeType":"ALL_RULES","stringDelimiter":"_"}
```

Example URL and Payload with Data POV Passed

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/{api_version}/applications/{application}/povs/{povGroupMember}/jobs/runLedgerCalculationJob
```

```
{"dataPOVName":"2015_January_Actual","isClearCalculated":"true","isExecuteCalculations":"true","isRunNow":"true","optimizeReporting":"false","comment":"This is run by user1","exeType":"ALL_RULES","stringDelimiter":"_"}
```

Response Body

Supported Media Types: application/json

Table 24-34 Parameters

Name	Description
details	Task ID, such as BksML1_BksML1_RunCalcs_D20160113T070358_1da_1
status	See Migration Status Codes
statusMessage	Message about the status, such as In Progress
type	Profitability

Table 24-34 (Cont.) Parameters

Name	Description
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_RunCalcs_D20220511T114716_a14",
   "links":[
      {
         "href":"http:// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applications/jobs/ChecktaskStatusJob/
BksML30_RunCalcs_D20220511T114716_a14",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – RunCalculation.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
public void runCalculation() throws Exception {

        String subsetStart = null;
        String subsetEnd = null;
        String ruleName = null;
        String ruleSetName = null;

        JSONObject json = new JSONObject();
        json.put("isClearCalculated", true);
        json.put("isExecuteCalculations", true);
        json.put("isRunNow", true);
        json.put("comment", "Run Calculation");
```

```
        json.put("subsetStart", subsetStart);
        json.put("subsetEnd", subsetEnd);
        json.put("ruleName", ruleName);
        json.put("ruleSetName", ruleSetName);
        json.put("exeType", "ALL_RULES");
        json.put("stringDelimiter", "_");

        String povGroupMember = "2014_January_Actual";

        String urlString = "%s/epm/rest/%s/applications/%s/povs/" +
povGroupMember.trim().replaceAll(" ", "%20")
                                        + "/jobs/runLedgerCalculationJob";
        executeJob(urlString, "POST", json.toString());

   }
```

cURL Sample – RunCalculation.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcRunCalculation() {
    subsetStart=""
    subsetEnd=""
    ruleName=""
    ruleSetName=""
    comment="Run Calculation Curl"
    exeType="ALL_RULES"
    stringDelimiter="_"

param="{\"isClearCalculated\":\"true\",\"isExecuteCalculations\":\"true\",\"i
sRunNow\":\"true\",\"comment\":\"$comment\",\"subsetStart\":\"$subsetStart\",
\"subsetEnd\":\"$subsetEnd\",\"ruleName\":\"$ruleName\",\"ruleSetName\":\"$ru
leSetName\",\"exeType\":\"$exeType\",\"stringDelimiter\":\"$stringDelimiter\"
}"
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/
povs/$POV_GROUP_MEMBER/jobs/runLedgerCalculationJob
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Running Calc successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – RunCalculation.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def runCalculation() {

        String subsetStart = null;
        String subsetEnd = null;
        String ruleName = null;
        String ruleSetName = null;

        JSONObject json = new JSONObject();
        json.put("isClearCalculated", true);
        json.put("isExecuteCalculations", true);
        json.put("isRunNow", true);
        json.put("comment", "Run Calculation");
        json.put("subsetStart", subsetStart);
        json.put("subsetEnd", subsetEnd);
        json.put("ruleName", ruleName);
        json.put("ruleSetName", ruleSetName);
        json.put("exeType", "ALL_RULES");
        json.put("stringDelimiter", "_");

        String povGroupMember = "2014_January_Actual";
        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/" + appName + "/povs/"
                                        +
povGroupMember.trim().replaceAll(" ", "%20") + "/jobs/
runLedgerCalculationJob";

        def url;

        try {
                url = new URL(urlString)
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
                System.exit(0);
        }
        executeJob(url, "POST", json.toString());
    }
```

Run ML Clear POV

Clears model artifacts and data from a POV combination for any application.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/applications/{application}/povs/{povGroupMember}/jobs/clearPOVJob`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-35 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application for which to run calculations	Path	Yes	None
`povGroupMember`	The POV group member for which to clear model artifacts sand data, such as `2015_January_Actual`	Path	Yes	None
`isManageRule`	To clear the program rule details or not; true/false	Payload	No	None
`isInputData`	To clear input data or not; true/false	Payload	No	None
`queryName`	A query name already existing within the application; used to clear a region within the given POV	Payload	No	None
`isAllocatedValues`	To clear allocation values or not; true/false	Payload	No	None
`isAdjustmentValues`	To clear adjustment values or not; true/false	Payload	No	None
`stringDelimiter`	String delimiter for POV group members	Payload	No	"_" (Underscore)

> **Note:**
>
> If `queryName` is used (is not null), then isManageRule, isAllocatedValues, and `isAdjustmentValues` must be set to `false`.
>
> If one of these parameters or `isInputData` is not passed, it is considered as `false`.

Example URL and payload to clear to a particular region within input data

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/{api_version}/applications/{application}/povs/{povGroupMember}/jobs/clearPOVJob
```

```
{"isInputData":"true","queryName":"myQueryName","stringDelimiter":"_"}
```

Response Body

Supported Media Types: `application/json`

Table 24-36 Parameters

Name	Description
`details`	Task ID, such as `BksML1_BksML1_ClearMLPOV_D20160113T070358_1da_1`
`status`	See Migration Status Codes
`statusMessage`	Message about the status, such as `In Progress`
`type`	Profitability
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_ClearMLPOV_D20220511T114821_f4b",
   "links":[
      {
         "href":"http:// :// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/
applications/jobs/ChecktaskStatusJob/
BksML30_ClearMLPOV_D20220511T114821_f4b",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

cURL Sample – ClearPOV.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
uncClearPOVData() {
    stringDelimiter="_";

param="{\"isManageRule\":\"true\",\"isInputData\":\"true\",\"stringDeli
```

```
miter\":\"$stringDelimiter\"}"
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/
povs/$POV_GROUP_MEMBER/jobs/clearPOVJob
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started Clearing POV successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – ClearPOV.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def clearPOVData() {

        JSONObject json = new JSONObject();
        json.put("isManageRule", true);
        json.put("isInputData", true);
        json.put("stringDelimiter", "_");

        String povGroupMember = "2014_January_Actual";

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/" + appName + "/povs/"
                                        + povGroupMember.trim().replaceAll("
", "%20") + "/jobs/clearPOVJob";

        def url;

         try {
                  url = new URL(urlString)
         } catch (MalformedURLException e) {
                  println "Malformed URL. Please pass valid URL"
                  System.exit(0);
         }

        executeJob(url, "POST", json.toString());
    }
```

Java Sample – clearPOV.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void clearPOVData() throws Exception {

        JSONObject json = new JSONObject();
        json.put("isManageRule", true);
        json.put("isInputData", true);
        json.put("stringDelimiter", "_");

        String povGroupMember = "2014_January_Actual";

        String urlString = "%s/epm/rest/%s/applications/%s/povs/" +
povGroupMember.trim().replaceAll(" ", "%20")
                                          +  "/jobs/clearPOVJob";
        executeJob(urlString, "POST", json.toString());
    }
```

Run ML Rule Balancing

Retrieves Rule Balancing data for a particular POV for a given application.

Required Roles

Service Administrator, Power User

REST Resource

GET `/epm/rest/{api_version}/applications/{application}/povs/{povGroupMember}/ruleBalance?queryParameter={"modelViewName":"modelViewName"}`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-37 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application for which to retrieve rule balancing data	Path	Yes	None
`povGroupMember`	POV name for which to retrieve the results, such as `2015_January_Actual`	Path	Yes	None
`modelViewName`	Model view name to filter the results within the POV area	Query	Yes	None
`stringDelimiter`	String delimiter for POV group members, such as "_"	Query	No	Underscore, "_"

Example URL and Sample Query Parameter

```
https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/
rest/{api_version}/applications/{application}/povs/{povGroupMembers}/
ruleBalance?queryParameter={"modelViewName":"modelViewName"}
```

Response Body

Supported Media Types: `application/json`

Table 24-38 Parameters

Name	Description
`details`	Rule balancing output for the given POV
`status`	See Migration Status Codes
`statusMessage`	Message about the status, such as `Success`
`type`	Profitability
`data`	Parameters as key value pairs
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
"items": [{
      "ruleNumber": "",
      "rules": [],
      "balanceTypeRule": true,
      "scale": 2,
      "sequence": 0,
      "name": "NoRule",
      "description": null,
      "runningBalance": 49357098.03,
      "balance": 49357098.03,
      "allocationIn": null,
      "allocationOut": null,
      "adjustmentIn": null,
      "adjustmentOut": null,
      "input": 49357098.03,
      "runningRemainder": 49357098.03,
      "remainder": 49357098.03,
      "netChange": null,
      "offset": null,
      "inputAsString": "49,357,098.03",
      "adjInAsString": "-",
      "adjOutAsString": "-",
      "allocInAsString": "-",
      "allocOutAsString": "-",
      "balanceAsString": "49,357,098.03",
      "runningBalanceAsString": "49,357,098.03",
```

```
      "runningRemainderAsString": "49,357,098.03",
      "remainderAsString": "49,357,098.03",
      "netChangeAsString": "-",
      "offsetAsString": "-"
    },
  ],
  "type": "Profitability",
"status": 0,
  "details": "",
  "statusMessage": "Success"
}
```

Java Sample – RunRuleBalancing.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
public void runRuleBalancing() throws Exception {

        String modelViewName = null;

        JSONObject json = new JSONObject();
        json.put("stringDelimiter", "_");
        json.put("modelViewName", modelViewName);

        String povGroupMember = "2014_January_Actual";

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/" + applicationName + "/povs/"
                                          +
povGroupMember.trim().replaceAll(" ", "%20") + "/ruleBalance";
        urlString = urlString + "?" + "queryParameter=" +
json.toString();

        String response = executeRequest(urlString, "GET", null,
"application/json");
        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");

        if(resStatus == 0) {
            System.out.println("Rule Balancing ran successfully");
            JSONArray itemsArray =
jsonObj.getJSONArray("items");
            System.out.println("Details : " + itemsArray.toString());
        } else {
            String details = jsonObj.getString("details");
            System.out.println("Rule Balancing failed. Details : " +
details);
        }
```

```
    }
```

cURL Sample – RunRuleBalancing.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcRunRuleBalancing() {
    url=$SERVER_URL/epm/rest/$API_VERSION/applications/$APP_NAME/
povs/$POV_GROUP_MEMBER/ruleBalance
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"
    list=`cat response.txt | jq 'select(.items != null) | .items[].name'`
    if [[ ! -z $list ]]; then
        echo $list
    else
        echo "No Items found"
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"

}
```

Groovy Sample – RunRuleBalancing.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def runRuleBalancing() {

        String modelViewName = null;

        JSONObject json = new JSONObject();
        json.put("stringDelimiter", "_");
        json.put("modelViewName", modelViewName);

        String povGroupMember = "2014_January_Actual";

        def url;
        def response;

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
applications/" + appName + "/povs/"
                                        + povGroupMember.trim().replaceAll("
", "%20") + "/ruleBalance";
        urlString = urlString + "?" + "queryParameter=" + json.toString();

        try {
                url = new URL(urlString);
```

```
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
                System.exit(0);
        }

        response = executeRequest(url, "GET", null, "application/
json");
        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");

        if(resStatus == 0) {
            println "Rule Balancing ran successfully"
            JSONArray itemsArray =
jsonObj.getJSONArray("items");
            println "Details : " + itemsArray.toString()
        } else {
            String details = jsonObj.getString("details");
            println "Rule Balancing failed. Details : " + details
        }
    }
```

Update Dimensions As a Job

Uploads a new dimension flat file for an application created using a flat file.

Similar to Update File-Based Application, you can use the new resource to update dimension flat files for an application. However, Update Dimensions As a Job runs asynchronously; it immediately returns the job ID and the job status (Running or Failed). Update File-Based Application runs synchronously and waits until the job finishes to indicate whether the job succeeded or failed.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/fileApplications/{application}/jobs/updateDimension`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-39 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application to update	Path	Yes	None

Table 24-39 (Cont.) Parameters

Name	Description	Type	Required	Default
dataFileName	Dimension Metadata flat file name that has already been uploaded to the Inbox folder; multiple file names can be passed separated by comma or other separator character listed in the stringDelimiter parameter	Payload	Yes	None
stringDelimiter	Separator character to use if different from commas	Payload	No	Comma (,)

Example URL and Payload

```
https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/<api_version>/
fileApplications/BksML12/jobs/
updateDimension{"dataFileName":"input.txt","stringDelimiter":","}
```

Response Body

Supported Media Types: `application/json`

Table 24-40 Parameters

Name	Description
details	Task ID, such as BksML12_BksML12_ UpdateDimension_D20160118T051020_bb8_1
status	See Migration Status Codes
statusMessage	Message about the status, such as In Progress
type	Profitability
data	Parameters as key value pairs
links	Detailed information about the link
href	Links to API call
action	The HTTP call type
rel	Relationship type
data	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":-1,
   "statusMessage":"In Progress",
   "details":"BksML30_UpdateDimensions_D20220513T062046_c61",
   "links":[
      {
         "href":"http:// :// <SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/applications/
```

```
jobs/ChecktaskStatusJob/BksML30_UpdateDimensions_D20220513T062046_c61",
         "action":"GET",
         "rel":"Job Status"
      }
   ]
}
```

Java Sample – UpdateDimensionJob.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void updateDimensionJob() throws Exception {

        JSONObject json = new JSONObject();
        json.put("dataFileName", "Accounts.txt,Activity.txt");

        String urlString = serverURL + "/epm/rest/" + apiVersion + "/
fileApplications/" + applicationName + "/updateDimensionJob";

        exe4cuteJob(urlString, "POST", json.toString(();
    }
```

> **Note:**
>
> In the main method, enter the following statement:
>
> ```
> restSamplesObj.updateDimensionsJob();
> ```

cURL Sample – UpdateDimensionJob.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcUpdateDimensionJob() {
    dataFileName="Accounts.txt,Activity.txt"
    param="{\"dataFileName\":\"$dataFileName\"}"
    url=$SERVER_URL/epm/rest/$API_VERSION/fileApplications/$APP_NAME/
updateDimensionJob
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [$status == -1 ]; then
        echo "Started Update Dimensions Job successfully"
```

```
            funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred." $error
    fi
            funcRemoveTempFiles "respHeader.txt" response.txt"
}
```

> **Note:**
>
> At the end, call this statement along with other statements:
>
> ```
> funcUpdateDimensionsJob
> ```

Groovy Sample – UpdateDimensionJob.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def updateDimensionsJob() {

        JSONObject json = new JSONObject();
        json.put("dataFileName", "Accounts.txt,Activity.txt");

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
fileApplications/"+ appName + "/updateDimensionJob";
        def url;

        try {
                url = new URL(urlString)
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
                System.exit(0);
        }

        executeJob(url,"POST",json.toString());
    }
```

> **Note:**
>
> In the main method, add the following statement:
>
> ```
> restSamplesObj.updateDimensionJob();
> ```

Update File-Based Application

Uploads a new dimension flat file for an application created using a flat file.

Required Roles

Service Administrator, Power User

REST Resource

POST `/epm/rest/{api_version}/fileApplications/{application}/updateDimension`

Request

Supported Media Types: `application/json`

The following table summarizes the client request.

Table 24-41 Parameters

Name	Description	Type	Required	Default
`api_version`	Version of the API you are developing with	Path	Yes	None
`application`	Name of the application to update	Path	Yes	None
`dataFileName`	Dimension Metadata flat file name that has already been uploaded to the Inbox folder	Payload	Yes	None

Example URL and Payload

`https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/epm/rest/v1/fileApplications/BksML12/jobs/updateDimension{"dataFileName":"input.txt"}`

Response Body

Supported Media Types: `application/json`

Table 24-42 Parameters

Name	Description
`details`	Task ID, such as `BksML12_BksML12_UpdateDimension_D20160118T051020_bb8_1`
`status`	See Migration Status Codes
`statusMessage`	Message about the status, such as `In Progress`
`type`	Profitability
`data`	Parameters as key value pairs
`links`	Detailed information about the link
`href`	Links to API call
`action`	The HTTP call type
`rel`	Relationship type
`data`	Parameters as key value pairs passed in the request

Example of Response Body

The following shows an example of the response body in JSON format.

```
{
   "type":"Profitability",
   "status":0,
   "statusMessage":"Success",
   "details":"true"
}
```

Java Sample – UpdateDimension.java for Profitability and Cost Management

Prerequisites: json.jar

Prerequisites: See Profitability and Cost Management Common Helper Functions for Java

```
    public void updateDimensions() throws Exception {

        JSONObject json = new JSONObject();
        json.put("dataFileName", "Accounts.txt");

        String urlString = "%s/epm/rest/%s/fileApplications/%s/
updateDimension";
        String response = executeRequest(urlString, "POST", json.toString(),
"application/json");
        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");

        if(resStatus == 0) {
            System.out.println("Dimensions updated successfully");
        } else {
            System.out.println("Dimensions update failed");
        }
    }
```

cURL Sample – UpdateDimension.sh for Profitability and Cost Management

Common functions: See Profitability and Cost Management Common Helper Functions for cURL.

```
funcUpdateDimensions() {
    dataFileName="Accounts.txt"
    param="{\"dataFileName\":\"$dataFileName\"}"
    url=$SERVER_URL/epm/rest/$API_VERSION/fileApplications/$APP_NAME/
updateDimension
    funcExecuteRequest "POST" $url "$param" "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
```

```
    if [ $status == 0 ]; then
        echo "Dimensions updated successfully"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

Groovy Sample – UpdateDimension.groovy for Profitability and Cost Management

Prerequisites: json.jar

Common functions: See Appendix C: Common Helper Functions for Groovy.

```
def updateDimensions() {

        JSONObject json = new JSONObject();
        json.put("dataFileName", "Accounts.txt");

        String urlString = serverUrl + "/epm/rest/"+ apiVersion + "/
fileApplications/"+ appName + "/updateDimension";
        def url;

        try {
                url = new URL(urlString)
        } catch (MalformedURLException e) {
                println "Malformed URL. Please pass valid URL"
                System.exit(0);
        }

        String response = executeRequest(url, "POST", json.toString(),
"application/json");
        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");

        if(resStatus == 0) {
            println "Dimensions updated successfully"
        } else {
            println "Dimensions update failed"
        }
    }
```

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Narrative Reporting REST APIs

You can use the REST APIs for Narrative Reporting to work with Narrative Reporting artifacts, report packages, report snapshots, and reports.

You can use the REST APIs for Narrative Reporting to execute these actions:

- **Files**
  - Download a file from the temporary repository or to the Library.
  - Upload a temporary file to the Narrative Reporting repository.
- **Jobs**
  - Start a new Narrative Reporting job for asynchronous execution by the service.
  - Get a Narrative Reporting job's status that provides links to the job results when the job is complete.
- **Reports**
  - You can get the corresponding Report information
  - You can get the global point of view selections and member suggestions for the Report
  - You can get the required member selection prompts for the Report
- **Books**
  - You can get the corresponding Book information
  - You can get the global point of view selections and member suggestions for Book
- **Bursting Definitions**
  - You can view the Bursting Definitions and their content
  - You can execute the Bursting Definition file

26

Enterprise Data Management Cloud REST APIs

Use the REST APIs for Enterprise Data Management Cloud to work with applications, files, jobs, requests, and views.

A

Common Helper Functions for Java

This appendix shows the common helper functions for Java for the EPM REST APIs.

Note: The userName variable uses the format <domain>.<username>. See Authentication.

```
/*
    File: PbcsRestSamples.java - Created on Feb 19, 2015
    Copyright (c) 2015 Oracle Corporation. All Rights Reserved.
    This software is the proprietary information of Oracle.
 */
import java.io.BufferedInputStream;
import java.io.BufferedReader;
import java.io.DataOutputStream;
import java.io.File;
import java.io.FileInputStream;
import java.io.FileOutputStream;
import java.io.IOException;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.io.OutputStreamWriter;
import java.net.HttpURLConnection;
import java.net.URL;
import java.util.Scanner;

import org.json.JSONArray;
import org.json.JSONObject;


/*
 * PBCS Rest Samples.
 * The userName variable uses the format <domain>.<username>.
 */
public class PbcsRestSamples{
    private String userName;        // PBCS user name
    private String password;        // PBCS user password
    private String serverUrl;       // PBCS server URL
    private String apiVersion;         // Version of the PBCS API that you
are developing/compiling with.
    private String applicationName; // PBCS application used in this sample

    public static void main(String[] args) {
        try {
            PbcsRestSamples samples = new
PbcsRestSamples("epm_default_cloud_admin", "epm_cloud", "https://
<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/",
"11.1.2.3.600", "Vision");
            samples.integrationScenarioImportMetadataIntoApplication();
            samples.integrationScenarioImportDataRunCalcCopyToAso();
```

```
samples.integrationScenarioExportMetadataAndDataAndDownloadFiles();
            samples.integrationScenarioRemoveUnnecessaryFiles();

samples.integrationScenarioExportDataAndDownloadFiles();
            samples.integrationScenarioRefreshTheApplication();
        } catch (Throwable x) {
            System.err.println("Error: " + x.getMessage());
        }
    }

    public PbcsRestSamples(String userName, String password, String
serverUrl, String apiVersion, String applicationName) throws Exception
{
        this.userName = userName;
        this.password = password;
        this.serverUrl = serverUrl;
        this.apiVersion = apiVersion;
        this.applicationName = applicationName;
    }

    //
    // BEGIN - Integration scenarios.
    //
    public void integrationScenarioImportMetadataIntoApplication()
throws Exception {
        uploadFile("accounts.zip");
        executeJob("IMPORT_METADATA", "accountMetadata",
"{importZipFileName:accounts.zip}");
        executeJob("CUBE_REFRESH", null, null);
    }

    public void integrationScenarioImportDataRunCalcCopyToAso() throws
Exception {
        uploadFile("data.csv");
        executeJob("IMPORT_DATA", "loadingq1data",
"{importFileName:data.csv}");
        executeJob("CUBE_REFRESH", null, null);
        executeJob("PLAN_TYPE_MAP", "CampaignToReporting",
"{clearData:false}");
    }

    public void
integrationScenarioExportMetadataAndDataAndDownloadFiles() throws
Exception {
        executeJob("EXPORT_METADATA", "exportentitymetadata",
"{exportZipFileName:entitydata.zip}");
        executeJob("EXPORT_DATA", "Forecastdata",
"{exportFileName:forecastdata.zip}");
        listFiles();
        downloadFile("entitydata.zip");
        downloadFile("forecastdata.zip");
    }

    public void integrationScenarioRemoveUnnecessaryFiles() throws
Exception {
```

```
        listFiles();
        deleteFile("entitymetadata.csv");
        deleteFile("forecastdata.csv");
    }

    public void integrationScenarioExportDataAndDownloadFiles() throws
Exception {
        executeJob("EXPORT_DATA", "entitydata",
"{exportFileName:entitydata.zip}");
        executeJob("EXPORT_DATA", "forecastdata",
"{exportFileName:forecastdata.zip}");
        listFiles();
        downloadFile("entitydata.zip");
        downloadFile("forecastdata.zip");
    }

    public void integrationScenarioRefreshTheApplication() throws Exception {
        uploadFile("accounts.zip");
        executeJob("IMPORT_METADATA", "accountMetadata",
"{importZipFileName:accounts.zip}");
        executeJob("CUBE_REFRESH", null, null);
    }

    public void integrationScenarioCloneServiceInstance() throws Exception {
        // Part 1 : Change serverUrl, username, password, apiVersion
variables values to match those of first environment
        // Download file from source instance.
        // Comment out all lines below Part 2
        // Uncomment the below line for the first step.
        // downloadFile("Artifact Snapshot");

        // Part 2 : Change serverUrl, username, password, apiVersion to
match those of second environment.
        // Clone the service instance.
        // Comment out code for download file.
        // Uncomment below lines
        recreateService("PBCS");
        deleteFile("Artifact Snapshot");
        uploadFile("Artifact Snapshot.zip");
        importSnapshot("Artifact Snapshot");
    }
    //
    // END - Integration scenarios.
    //

    //
    // BEGIN - Methods that invoke REST API
    //

    //
    // Common Helper Methods
    //
    private String getStringFromInputStream(InputStream is) {
        BufferedReader br = null;
        StringBuilder sb = new StringBuilder();
```

```
        String line;

        try {
            br = new BufferedReader(new InputStreamReader(is));
            while ((line = br.readLine()) != null) {
                sb.append(line);
            }
        } catch (IOException e) {
            e.printStackTrace();
        } finally {
            if (br != null) {
                try {
                    br.close();
                } catch (IOException e) {
                    e.printStackTrace();
                }
            }
        }

        return sb.toString();
    }

    private String executeRequest(String urlString, String
requestMethod, String payload, String contentType) throws Exception {
        HttpURLConnection connection = null;
        try {
            URL url = new URL(urlString);
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod(requestMethod);
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty("Authorization", "Basic " +
new sun.misc.BASE64Encoder().encode((userName + ":" +
password).getBytes()));
            connection.setRequestProperty("Content-Type", contentType);
            if (payload != null) {
                OutputStreamWriter writer = new
OutputStreamWriter(connection.getOutputStream());
                writer.write(payload);
                writer.flush();
            }
            int status = connection.getResponseCode();
            if (status == 200 || status == 201) {
                return
getStringFromInputStream(connection.getInputStream());
            }
            throw new Exception("Http status code: " + status);
        } finally {
            if (connection != null)
                connection.disconnect();
        }
    }
```

```
    private void getJobStatus(String pingUrlString, String methodType)
throws Exception {
        boolean completed = false;
        while (!completed) {
            String pingResponse = executeRequest(pingUrlString, methodType,
null, "application/x-www-form-urlencoded");
            JSONObject json = new JSONObject(pingResponse);
            int status = json.getInt("status");
            if (status == -1) {
                try {
                    System.out.println("Please wait...");
                    Thread.sleep(20000);
                } catch (InterruptedException e) {
                    completed = true;
                    throw e;
                }
            }
            else {
                if (status > 0) {
                    System.out.println("Error occurred: " +
json.getString("details"));
                }
                else {
                    System.out.println("Completed");
                }
                completed = true;
            }
        }
    }

    private void getMigrationJobStatus(String pingUrlString, String
methodType) throws Exception {
        boolean completed = false;
        while (!completed) {
            String pingResponse = executeRequest(pingUrlString, methodType,
null, "application/x-www-form-urlencoded");
            JSONObject json = new JSONObject(pingResponse);
            int status = json.getInt("status");
            if (status == -1) {
                try {
                    System.out.println("Please wait...");
                    Thread.sleep(20000);
                } catch (InterruptedException e) {
                    completed = true;
                    throw e;
                }
            }
            else {
                if (status == 1){
                    System.out.println("Error occured");
                    JSONArray itemsArray =
json.getJSONArray("items");
                    JSONObject jObj = null;
                    if(itemsArray.length() <= 0){
                        System.out.println(json.getString("details"));
```

```
                    }else{
                    for (int i=0; i < itemsArray.length(); i++){
                        jObj = (JSONObject)itemsArray.get(i);
                        String source = jObj.getString("source");
                        String destination =
jObj.getString("destination");
                        String taskURL = null;
                        JSONArray lArray = jObj.getJSONArray("links");
                        for (int j = 0; j < lArray.length(); j++) {
                            JSONObject arr = lArray.getJSONObject(j);
                            if (!JSONObject.NULL.equals(arr) && !
JSONObject.NULL.equals(arr.get("rel")) && arr.get("rel").equals("Job
Details")) {
                                taskURL = (String) arr.get("href");
                                break;
                            }
                        }
                        System.out.println("Details:");
                        System.out.println("Source: " + source);
                        System.out.println("Destination: "+
destination);
                        boolean errorsCompleted = false;
                        String currentMessageCategory = "";
                        String nextPingURL = taskURL;
                        while(!errorsCompleted){
                            String nextPingResponse =
executeRequest(nextPingURL, "GET", null, "application/x-www-form-
urlencoded");
                            JSONObject jsonObj = new
JSONObject(nextPingResponse);
                            int status1 = jsonObj.getInt("status");
                            if(status1 == 0){
                                JSONArray artifactArray =
jsonObj.getJSONArray("items");
                                JSONObject jRes = null;
                                for(int k=0; k <
artifactArray.length(); k++){
                                    jRes =
(JSONObject)artifactArray.get(k);
                                    String artifact =
jRes.getString("artifact").toString();
                                    String msgCategory =
jRes.getString("msgCategory").toString();
                                    String msgText =
jRes.getString("msgText").toString();

if(currentMessageCategory.isEmpty() || !
currentMessageCategory.equals(msgCategory)){
                                        currentMessageCategory =
msgCategory;

System.out.println(currentMessageCategory);
                                    }
                                    System.out.println(artifact +" - "
+ msgText);
```

```
                                }
                                nextPingURL = "";
                                JSONArray nextLinks =
jsonObj.getJSONArray("links");
                                for (int j = 0; j < nextLinks.length(); j++)
{
                                    JSONObject nextArray =
nextLinks.getJSONObject(j);
                                    if (!JSONObject.NULL.equals(nextArray)
&& !JSONObject.NULL.equals(nextArray.get("rel")) &&
nextArray.get("rel").equals("next")) {
                                        nextPingURL = (String)
nextArray.get("href");
                                        break;
                                    }
                                }
                                if(nextPingURL.isEmpty())
                                    errorsCompleted = true;
                            }else if(status1 > 0){
                                System.out.println("Error occured while
fetching error details: "+ jsonObj.getString("details"));
                                errorsCompleted = true;
                            }
                        }
                    }
                    }
                }else if(status == 0){
                    System.out.println("Completed");
                }
                completed = true;
            }
        }
    }

    public String fetchPingUrlFromResponse(String response, String retValue)
throws Exception {
        String pingUrlString = null;
        JSONObject jsonObj = new JSONObject(response);
        int resStatus = jsonObj.getInt("status");
        if (resStatus == -1) {
            JSONArray lArray = jsonObj.getJSONArray("links");
            for (int i = 0; i < lArray.length(); i++) {
                JSONObject arr = lArray.getJSONObject(i);
                if (arr.get("rel").equals(relValue))
                    pingUrlString = (String)
arr.get("href");
            }
        }
        return pingUrlString;
    }
    //
    // END - Common Helper Methods
    //

    //
```

```
    // BEGIN - List all the versions in PBCS
    //
    public void getLCMVersions() throws Exception {
        String urlString = String.format("%s/interop/rest", serverUrl);
        String response = executeRequest(urlString, "GET", null,
"application/x-www-form-urlencoded");
        JSONObject json = new JSONObject(response);
        int resStatus = json.getInt("status");
        if (resStatus == 0) {
            JSONArray fileList = json.getJSONArray("items");
            System.out.println("List of files are :");
            JSONObject jObj = null;
            for(int i=0; i<fileList.length(); i++){0) {
                jObj = (JSONObject)fileList.get(i);
                System.out.println("Version :" +
jObj.getString("version"));
                System.out.println("Lifecycle :" +
jObj.getString("lifecycle"));
                System.out.println("Latest :" +
jObj.getString("latest"));
                System.out.println("Link :" + ((JSONObject)
((JSONArray) jObj.getJSONArray("links")).get(0)).getString("href") +
"\n");
            }
        }
    }
    //
    // END - List all the versions in PBCS
    //

    //
    // BEGIN - Get application snapshot details
    //
    public void getApplicationSnapshotDetails(String snapshotName)
throws Exception {
        String urlString = String.format("%s/interop/rest/%s/
applicationsnapshots/%s", serverUrl, apiVersion, snapshotName);
        String response = executeRequest(urlString, "GET", null,
"application/x-www-form-urlencoded");
        JSONObject json = new JSONObject(response);

        int resStatus = json.getInt("status");
        if (resStatus == 0) {
            System.out.println("Application details :");
            JSONArray itemsArray = json.getJSONArray("items");
            JSONObject item = (JSONObject) itemsArray.get(0);
            System.out.println("Application snapshot name : " +
item.getString("name"));
            System.out.println("Application snapshot type : " +
item.getString("type"));
            System.out.println("Can be exported flag : " +
item.getString("canExport"));
            System.out.println("Can be imported flag : " +
item.getString("canImport"));
            System.out.println("Can be uploaded flag : " +
```

```
item.getString("canUpload"));
            System.out.println("Can be downloaded flag : " +
item.getString("canDownload"));

            JSONArray linksArray = json.getJSONArray("links");
            JSONObject jObj = null;
            System.out.println("Services details :");
            for(int i=0; i < linksArray.length(); i++){
                jObj = (JSONObject)linksArray.get(i);
                System.out.println("Service :" + jObj.getString("rel"));
                System.out.println("URL :" + jObj.getString("href"));
                System.out.println("Action :" + jObj.getString("action") +
"\n");
            }
        }
    }
    //
    // END - Get application snapshot details
    //

    //
    // BEGIN - List all the files in PBCS
    //
    public void listFiles() throws Exception {
        String urlString = String.format("%s/interop/rest/%s/
applicationsnapshots", serverUrl, apiVersion);
        String response = executeRequest(urlString, "GET", null,
"application/x-www-form-urlencoded");
        JSONObject json = new JSONObject(response);
        int resStatus = json.getInt("status");
        if (resStatus == 0) {
            if (json.get("items").equals(JSONObject.NULL))
                System.out.println("No files found");
            else {
                System.out.println("List of files :");
                JSONArray itemsArray =
json.getJSONArray("items");
                JSONObject jObj = null;
                for (int i=0; i < itemsArray.length(); i++){
                    jObj = (JSONObject)itemsArray.get(i);
                    System.out.println(jObj.getString("name"));
                }
            }
        }
    }
    //
    // END - List all the files in PBCS
    //

    //
    // BEGIN - Delete a file in PBCS
    //
    public void deleteFile(String fileName) throws Exception {
        String urlString = String.format("%s/interop/rest/%s/
applicationsnapshots/%s", serverUrl, apiVersion, fileName);
```

```
        String response = executeRequest(urlString, "DELETE", null,
"application/x-www-form-urlencoded");
        JSONObject json = new JSONObject(response);
        int resStatus = json.getInt("status");
        if (resStatus == 0)
            System.out.println("File deleted successfully");
        else
            System.out.println("Error deleting file : " +
json.getString("details"));
    }
    //
    // END - Delete a file in PBCS
    //

    //
    // BEGIN - Download a file from PBCS
    //
    public void downloadFile(String fileName) throws Exception {
        HttpURLConnection connection = null;
        InputStream inputStream = null;
        FileOutputStream outputStream = null;

        try {
            URL url = new URL(String.format("%s/interop/rest/%s/
applicationsnapshots/%s/contents", serverUrl, apiVersion, fileName));
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod("GET");
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty("Authorization", "Basic " +
new sun.misc.BASE64Encoder().encode((userName + ":" +
password).getBytes()));
            connection.setRequestProperty("Content-Type",
"application/x-www-form-urlencoded");
            int status = connection.getResponseCode();
            if (status == 200) {
                if (connection.getContentType() != null &&
connection.getContentType().equals("application/json")) {
                    JSONObject json = new
JSONObject(getStringFromInputStream(connection.getInputStream()));
                    System.out.println("Error downloading file : " +
json.getString("details"));
                } else {
                    inputStream = connection.getInputStream();
                    outputStream = new FileOutputStream(new
File(fileName));
                    int bytesRead = -1;
                    byte[] buffer = new byte[5 * 1024 * 1024];
                    while ((bytesRead = inputStream.read(buffer)) !=
-1)
                        outputStream.write(buffer, 0, bytesRead);
                    System.out.println("File download completed.");
                }
```

```
            } else {
                throw new Exception("Http status code: " + status);
            }
        } finally {
            if (connection != null)
                connection.disconnect();
            if (outputStream != null)
                outputStream.close();
            if (inputStream != null)
                inputStream.close();
        }
    }
    //
    // END - Download a file from PBCS
    //

    //
    // BEGIN - Upload a file to PBCS
    //
    public void uploadFile(String fileName) throws Exception {
        final int DEFAULT_CHUNK_SIZE = 50 * 1024 * 1024;
        InputStream fis = null;
        byte[] lastChunk = null;
        long totalFileSize = new File(fileName).length(), totalbytesRead = 0;
        boolean isLast = false, status = true;
        Boolean isFirst = true;
        int packetNo = 1, lastPacketNo = (int) (Math.ceil(totalFileSize /
(double) DEFAULT_CHUNK_SIZE));

        try {
            fis = new BufferedInputStream(new FileInputStream(fileName));
            while (totalbytesRead < totalFileSize && status) {
                int nextChunkSize = (int) Math.min(DEFAULT_CHUNK_SIZE,
totalFileSize - totalbytesRead);
                if (lastChunk == null) {
                    lastChunk = new byte[nextChunkSize];
                    totalbytesRead += fis.read(lastChunk);
                    if (packetNo == lastPacketNo)
                        isLast = true;
                    status = sendFileContents(isFirst, isLast, lastChunk,
fileName);
                    isFirst=false;
                    packetNo = packetNo + 1;
                    lastChunk = null;
                }
            }
            System.out.println("Uploaded successfully");
        } finally {
            if (fis != null)
                fis.close();
        }
    }

    private boolean sendFileContents(Boolean isFirst, boolean isLast, byte[]
lastChunk, String fileName) throws Exception {
```

```
        HttpURLConnection connection = null;

        try {
            URL url = new URL(String.format("%s/interop/rest/%s/
applicationsnapshots/%s/contents?
q={chunkSize:%d,isFirst:%b,isLast:%b}",
                    serverUrl, apiVersion, fileName, lastChunk.length,
isFirst, isLast));
            connection = (HttpURLConnection) url.openConnection();
            connection.setRequestMethod("POST");
            connection.setInstanceFollowRedirects(false);
            connection.setDoOutput(true);
            connection.setUseCaches(false);
            connection.setDoInput(true);
            connection.setRequestProperty("Authorization", "Basic " +
new sun.misc.BASE64Encoder().encode((userName + ":" +
password).getBytes()));
            connection.setRequestProperty("Content-Type", "application/
octet-stream");

            DataOutputStream wr = new
DataOutputStream(connection.getOutputStream());
            wr.write(lastChunk);
            wr.flush();

            int statusCode = connection.getResponseCode();
            String status =
getStringFromInputStream(connection.getInputStream());
            if (statusCode == 200 && status != null) {
                int commandStatus = getCommandStatus(status);
                if (commandStatus == 0) {
                    isFirst = false;
                    return true;
                }else if(commandStatus == -1 && isLast){
                    getJobStatus(fetchPingUrlFromResponse(status, "Job
Status"), "GET");
                }
            }

            return false;
        } finally {
            if (connection != null)
                connection.disconnect();
        }
    }

    public int getCommandStatus(String response) throws Exception {
        JSONObject json = new JSONObject(response);
        if (!JSONObject.NULL.equals(json.get("status")))
            return json.getInt("status");
        else
            return Integer.MIN_VALUE;
    }
    //
    // END - Upload a file to PBCS
```

```
    //

    //
    // BEGIN - Import an application snapshot
    //
    public void importSnapshot(String applicationSnapshotName) throws
Exception {
        JSONObject params = new JSONObject();
        params.put("type","import");
        String urlString = String.format("%s/interop/rest/%s/
applicationsnapshots/%s/migration?q=%s", serverUrl, apiVersion,
applicationSnapshotName, params.toString());
        String response = executeRequest(urlString, "POST", null,
"application/x-www-form-urlencoded");
        System.out.println("Import started successfully");
        getMigrationJobStatus(fetchPingUrlFromResponse(response, "Job
Status"),"POST");
    }
    //
    // END - Import an application snapshot
    //

    //
    // BEGIN - Export an application snapshot
    //
    public void exportSnapshot(String applicationSnapshotName) throws
Exception {
        JSONObject params = new JSONObject();
        params.put("type","export");
        String urlString = String.format("%s/interop/rest/%s/
applicationsnapshots/%s/migration?q=%s", serverUrl, apiVersion,
applicationSnapshotName, params.toString());
        String response = executeRequest(urlString, "POST", null,
"application/x-www-form-urlencoded");
        System.out.println("Export started successfully");
        getMigrationJobStatus(fetchPingUrlFromResponse(response, "Job
Status"), "POST");
    }
    //
    // END - Export an application snapshot
    //

    //
// BEGIN - Provide Feedback
    //
    public void provideFeedback(String description) throws Exception {
        JSONObject params = new JSONObject();
        JSONObject config = new JSONObject();
        config.put("URL",serverUrl);
        params.put("configuration",config);
        params.put("description",description);

        String urlString = String.format("%s/interop/rest/%s/feedback",
serverUrl, apiVersion);
        String response = executeRequest(urlString, "POST",
```

```
params.toString(), "application/json");
        JSONObject json = new JSONObject(response);
        int resStatus = json.getInt("status");
        if (resStatus == 0) {
            System.out.println("Feedback successful");
        } else {
            System.out.println("Error occured: " +
json.getString("details"));
        }
    }
    //
    // END - Provide Feedback
    //

    //
    // BEGIN - Reset services
    //
    public void hardReset(String comment) throws Exception {
        Scanner in = new Scanner(System.in);
        System.out.println("Are you sure you want to restart the
service instance (yes/no): no ?[Press Enter]");
        String s = in.nextLine();
        if (!s.equals("yes")) {
            System.out.println("User cancelled the recreate command");
            System.exit(0);
        }

        JSONObject params = new JSONObject();
        params.put("comment",java.net.URLEncoder.encode(comment));

        String urlString = String.format("%s/interop/rest/%s/services/
PBCS/resetservice", serverUrl, apiVersion);
        String response = executeRequest(urlString, "POST",
params.toString(), "application/x-www-form-urlencoded");
        waitForCompletion(fetchPingUrlFromResponse(response, "Job
Status"));
    }
    //
    // END - Reset services
    //
    //
    // BEGIN - Execute a Job (EXPORT_DATA, EXPORT_METADATA,
IMPORT_DATA, IMPORT_METADATA, CUBE_REFRESH, ...)
    //
    public void executeJob(String jobType, String jobName, String
parameters) throws Exception {
        String urlString = String.format("%s/HyperionPlanning/rest/%s/
applications/%s/jobs", serverUrl, apiVersion, applicationName);
        JSONObject payload = new JSONObject();
        payload.put("jobName",jobName);
        payload.put("jobType",jobType);
        payload.put("parameters",new JSONObject(parameters));
        String response = executeRequest(urlString, "POST",
payload.toString(), "application/json");
        System.out.println("Job started successfully");
```

```
        getJobStatus(fetchPingUrlFromResponse(response, "self"),
"GET");
    }
    //
    // END - Execute a Job (EXPORT_DATA, EXPORT_METADATA, IMPORT_DATA,
IMPORT_METADATA, CUBE_REFRESH, ...)
    //
}
```

> **Note:**
>
> **Note on Proxy Setting**: In case of proxies, set the proxy host and port as the system arguments.

B

CSS Common Helper Functions for Java

This appendix shows the CSS common helper functions for Java for the EPM REST APIs.

Prerequisites: json.jar

Note on Proxy Setting: In case of proxies, set the proxy host and port as the system arguments.

```
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.io.OutputStreamWriter;
import java.io.UnsupportedEncodingException;
import java.net.HttpURLConnection;
import java.net.URI;
import java.net.URLEncoder;
import java.nio.charset.Charset;
import java.util.HashMap;
import java.util.Map;
import java.util.Set;

import javax.xml.bind.DatatypeConverter;

import org.json.JSONArray;
import org.json.JSONObject;

public class CSSRESTSamples {
    private static String userName;
    private static String password;
    private String serverUrl;
    private String apiVersion;

    public static void main(String[] args) {
        try {
CSSRESTSamples samples = new CSSRESTSamples("<DOMAINNAME.USERNAME>",
"<PASSWORD>", "<SERVICE_URL>", "v1");
            // Call sample APIs.
            // samples.addUsers("AddUser2.csv", "test123$", false);
            // samples.removeUsers("test2.csv");
            // samples.assignRole("test3.csv", "Power User");
            // samples.unassignRole("test4.csv", "Viewer");
            // samples.addUsersToGroup("test5.csv", "TestGroup1");
            // samples.removeUsersFromGroup("test6.csv", "TestGroup2");
            // samples.generateRoleAssignmentReport("JavaSampleReport.csv",
"ServiceUsers");
            // samples.generateUserGroupReport("UserGroupReport.csv");
            // samples.addUserToGroups("Group.csv", "user1");
            // samples.removeUserFromGroups("groups.csv", "joe");
```

```
            // samples.addGroups("Group1.csv");
            // samples.removeGroups("DeleteGroup1.csv");
            // samples.generateInvalidLoginReport("2021-06-01",
"2021-06-10","invalidLoginReport141.csv");
            // samples.generateRoleAssignmentAuditReport("2021-06-01",
"2021-06-10","roleAssignmentaudit_14778.csv");
            // samples.updateUsers("updateuser.csv");
        } catch (Throwable x) {
            System.err.println("Error: " + x.getMessage());
        }
    }

    public CSSRESTSamples(String userName, String password, String
serverUrl, String apiVersion) throws Exception {
        this.userName = userName;
        this.password = password;
        this.serverUrl = serverUrl;
        this.apiVersion = apiVersion;
    }

    public void addUsers(String fileName, String userPassword, boolean
resetPassword) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);
            reqParams.put("userpassword", userPassword);
            reqParams.put("resetpassword", resetPassword + "");

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void removeUsers(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
```

```
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "DELETE");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void assignRole(String fileName, String roleName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "ASSIGN_ROLE");
            reqParams.put("rolename", roleName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void unassignRole(String fileName, String roleName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "UNASSIGN_ROLE");
```

```
            reqParams.put("rolename", roleName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void addUsersToGroup(String fileName, String groupName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "ADD_USERS_TO_GROUP");
            reqParams.put("groupname", groupName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void removeUsersFromGroup(String fileName, String
groupName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
```

```
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "REMOVE_USERS_FROM_GROUP");
            reqParams.put("groupname", groupName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void addUserToGroups(String fileName, String userName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "ADD_USER_TO_GROUPS");
            reqParams.put("username", userName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void removeUserFromGroups(String fileName, String userName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "REMOVE_USER_FROM_GROUPS");
            reqParams.put("username", userName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
```

```
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void generateRoleAssignmentReport(String fileName, String
userType) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/roleassignmentreport";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);
                    reqParams.put("usertype", userType);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void generateUserGroupReport(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/usergroupreport";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
```

```
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void addGroups(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void removeGroups(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "DELETE");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
```

```
    public void generateInvalidLoginReport(String fromDate, String
toDate,String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/invalidloginreport";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("from_date", fromDate);
            reqParams.put("to_date", toDate);
            reqParams.put("filename", fileName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void generateRoleAssignmentAuditReport(String fromDate,
String toDate,String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/roleassignmentauditreport";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("from_date", fromDate);
            reqParams.put("to_date", toDate);
            reqParams.put("filename", fileName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
```

```
        }
    }

    public void updateUsers(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "UPDATE_USERS");

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    private static class CSSRESTHelper {
        public static final String REST_CALL_STATUS = "REST_CALL_STATUS";
        public static final String REST_CALL_RESPONSE = "REST_CALL_RESPONSE";

        private static Map<String, String> callRestApi(Map context, String
url, Map<String, String> requestHeaders,
                Map<String, String> requestParams, String methodType) {
            HttpURLConnection urlConnection = null;
            Map<String, String> restResult = new HashMap<String, String>();
            restResult.put(REST_CALL_STATUS, "-1");
            boolean isPostMethod = "POST".equalsIgnoreCase(methodType) ||
"PUT".equalsIgnoreCase(methodType);
            try {
                URI baseUri = new URI(url);
                URI uri = null;
                String reqParams = (requestParams != null ?
buildRequestParams(context, requestParams, isPostMethod)
                        : null);
                if (isPostMethod) {
                    uri = new URI(baseUri.getScheme(),
baseUri.getAuthority(), baseUri.getPath(), null, null);
                } else {
                    uri = new URI(baseUri.getScheme(),
baseUri.getAuthority(), baseUri.getPath(), reqParams, null);
                }

                urlConnection = (HttpURLConnection)
uri.toURL().openConnection();
```

```
                urlConnection.setRequestMethod(methodType);

                if (requestHeaders != null) {
                    Set<String> requestHeaderKeys =
requestHeaders.keySet();
                    for (String requestHeaderKey : requestHeaderKeys) {

urlConnection.setRequestProperty(requestHeaderKey,
requestHeaders.get(requestHeaderKey));
                    }
                }

                urlConnection.setUseCaches(false);
                urlConnection.setDoOutput(true);
                urlConnection.setDoInput(true);

                if (isPostMethod) {
                    OutputStreamWriter writer = new
OutputStreamWriter(urlConnection.getOutputStream(),
                            Charset.defaultCharset());
                    writer.write(reqParams);
                    writer.flush();
                }

                if (!isPostMethod) {
                    urlConnection.connect();
                }

                int status = urlConnection.getResponseCode();
                restResult.put(REST_CALL_STATUS,
String.valueOf(status));
                String response = readResponse(context,
                        (status >= 400 ?
urlConnection.getErrorStream() : urlConnection.getInputStream()));
                restResult.put(REST_CALL_RESPONSE, response);
            } catch (Exception e) {
                restResult.put(REST_CALL_RESPONSE, e.getMessage());
            } finally {
                if (urlConnection != null) {
                    urlConnection.disconnect();
                }
            }
            return restResult;
        }

        private static String buildRequestParams(Map context,
Map<String, String> requestParams, boolean isPostMethod) {
            String reqParams = null;
            try {
                StringBuilder result = new StringBuilder();
                Set<String> reqParamKeys = requestParams.keySet();
                boolean first = true;
                for (String reqParamKey : reqParamKeys) {
                    if (first)
                        first = false;
```

```
                    else
                        result.append("&");
                    String reqParamValue = requestParams.get(reqParamKey);
                    result.append((isPostMethod ?
URLEncoder.encode(reqParamKey, "UTF-8") : reqParamKey));
                    result.append("=");
                    result.append((isPostMethod ?
URLEncoder.encode(reqParamValue, "UTF-8") : reqParamValue));
                }
                reqParams = result.toString();
            } catch (UnsupportedEncodingException e) {
                e.printStackTrace();
            }
            return reqParams;
        }

        private static String readResponse(Map context, InputStream
urlInStream) {
            BufferedReader br = null;
            String response = "";
            try {
                String line;
                br = new BufferedReader(new InputStreamReader(urlInStream,
Charset.defaultCharset()));
                while ((line = br.readLine()) != null) {
                    response += line;
                }
            } catch (Exception e) {
                response += e.getMessage();
            } finally {
                if (br != null) {
                    try {
                        br.close();
                    } catch (IOException e) {
                        e.printStackTrace();
                    }
                }
            }
            return response;
        }

        private static String getCSSRESTJobUrlFromResponse(String response) {
            String jobUrl = "";
            try {
                JSONObject jsonResponse = new JSONObject(response);
                JSONArray links = (JSONArray) jsonResponse.get("links");
                JSONObject jobStatusLink = (JSONObject) links.get(1);
                jobUrl = jobStatusLink.get("href").toString();
            } catch (Exception ex) {
                ex.printStackTrace();
            }
            return jobUrl;
        }

        private static String getCSSRESTJobStatusFromResponse(String
```

```
response) {
            String jobStatus = "";
            try {
                JSONObject jsonResponse = new JSONObject(response);
                jobStatus = jsonResponse.get("status").toString();
            } catch (Exception ex) {
                ex.printStackTrace();
            }
            return jobStatus;
        }

        private static String
getCSSRESTJobCompletionStatus(Map<String, String> restResult,
Map<String, String> reqHeader) {
            String completionStatus = "";
            try {
                String restStatus =
restResult.get(CSSRESTHelper.REST_CALL_STATUS);
                if (restStatus.equalsIgnoreCase("200")) {
                    String jobUrl =
getCSSRESTJobUrlFromResponse(restResult.get(CSSRESTHelper.REST_CALL_RES
PONSE));
                    String restJobStatus = "-1";
                    Map<String, String> jobStatusResult = null;
                    while (restJobStatus.equalsIgnoreCase("-1")) {
                        jobStatusResult =
CSSRESTHelper.callRestApi(new HashMap(), jobUrl, reqHeader, null,
"GET");
                        String jobStatusStatus =
jobStatusResult.get(CSSRESTHelper.REST_CALL_STATUS);
                        if (jobStatusStatus.equalsIgnoreCase("200")) {
                            restJobStatus =
getCSSRESTJobStatusFromResponse(

jobStatusResult.get(CSSRESTHelper.REST_CALL_RESPONSE));
                        }
                        Thread.sleep(1000);
                    }
                    completionStatus =
jobStatusResult.get(CSSRESTHelper.REST_CALL_RESPONSE);
                }
            } catch (Exception ex) {
                ex.printStackTrace();
            }
            return completionStatus;
        }
    };
}
```

C

Common Helper Functions for cURL

This appendix shows the common helper functions for cURL for the EPM Cloud REST APIs.

Note: the `USERNAME` variable is <*domain*>.<*username*>. See Authentication.

```
#!/bin/sh

SERVER_URL="https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/"
USERNAME=<username>
PASSWORD=<password>
APP_NAME="Vision"
API_VERSION="11.1.2.3.600"

funcRemoveTempFiles() {
    for var in "$@"
    do
        if [ -f $var ]; then
            rm $var
        fi
    done
}

funcPrintErrorDetails() {
    contentType=`echo $(grep 'Content-Type:' respHeader.txt) | tr -d
[:space:]`
    if [ ! -z $contentType ] && [[ $contentType = *"application/json"* ]];
then
        output=`cat $1`
        error=`echo $output | jq '.details'`
        echo "Error details: " $error
    fi
}

funcExecuteRequest() {
    if [ ! -z "$4" ]; then
        statusCode=`curl -X $1 -s -w "%{http_code}" -u "$USERNAME:$PASSWORD"
-o "response.txt" -D "respHeader.txt" -H "Content-Type: $4" -d $3 $2`
    else
        statusCode=`curl -X $1 -s -w "%{http_code}" -u "$USERNAME:$PASSWORD"
-o "response.txt" -D "respHeader.txt" -H "Content-Type: $3" $2`
    fi
    if [ $statusCode != 200 ]; then
        echo "Error executing request"
        if [ $statusCode != 000 ]; then
            echo "Response error code : " $statusCode
            funcPrintErrorDetails "response.txt"
            funcRemoveTempFiles "respHeader.txt" "response.txt"
        fi
```

```
        exit 0
    fi
}

funcGetStatus() {
    output=`cat response.txt`
    count=`echo $output | jq '.links | length'`
    i=0
    pingUrl=""
    while [ $i -lt $count ]; do
        rel=`echo $output | jq '.links['$i'].rel'`
        rel=`echo "$rel" | tr -d "\""`
        if [ "$rel" == "Job Status" ]; then
                pingUrl=`echo $output | jq '.links['$i'].href'`
                pingUrl=`echo "$pingUrl" | tr -d "\""`
        fi
        i=`expr $i + 1`
    done
    echo $pingUrl
    completed="false"
    while [ $completed != "true" ]; do
        statusCode2=`curl -X $1 -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o "pingResponse.txt"  -H "Content-Type:
application/x-www-form-urlencoded" "$pingUrl"`
        if [ $statusCode2 == 200 ]; then
            status2=`jq '.status' pingResponse.txt`
            if [ $status2 != -1 ]; then
                completed="true"
                echo "Job completed"
            else
                echo "Please wait..."
                sleep 20
            fi

        else
            echo "Please wait..."
            sleep 20
        fi
        funcRemoveTempFiles "pingResponse.txt"
    done
}

funcGetMigrationStatus() {
    output=`cat response.txt`
    count=`echo $output | jq '.links | length'`
    i=0
    pingUrl=""
    while [ $i -lt $count ]; do
        rel=`echo $output | jq '.links['$i'].rel'`
        rel=`echo "$rel" | tr -d "\""`
        if [ "$rel" == "Job Status" ]; then
                pingUrl=`echo $output | jq '.links['$i'].href'`
                pingUrl=`echo "$pingUrl" | tr -d "\""`
        fi
        i=`expr $i + 1`
```

```
    done
    echo $pingUrl
    completed="false"
    while [ $completed != "true" ]; do
        statusCode2=`curl -X $1 -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o "pingResponse.txt"  -H "Content-Type: application/x-
www-form-urlencoded" "$pingUrl"`
        if [ $statusCode2 == 200 ]; then
            status2=`jq '.status' pingResponse.txt`
            if [ $status2 == 0 ]; then
                completed="true"
                echo "Job completed"
            elif [ $status2 == 1 ]; then
                output1=`cat pingResponse.txt`
                echo "Error occurred"
                count=`echo $output1 | jq '.items | length'`
                if [ $count == 0 ]; then
                    echo `echo $output1 | jq '.details'`
                else
                    i=0
                    while [ $i -lt $count ]; do
                        echo "Source : " `echo $output1 | jq
'.items['$i'].source'`
                        echo "Destination :" `echo $output1 | jq
'.items['$i'].destination'`
                        firstPing=`echo $output1 | jq
'.items['$i'].links[0].href'`
                        echo ""
                        taskCompleted="false"
                        while [ $taskCompleted != "true" ]; do
                            statusCode3=`curl -X "GET" -s -w "%{http_code}" -
u "$USERNAME:$PASSWORD" -o "taskpingResponse.txt"  -H "Content-Type:
application/x-www-form-urlencoded" "$firstPing"`
                            echo $statusCode3
                            output2=`cat taskpingResponse.txt`
                            count1=`echo $output2 | jq '.items | length'`
                            j=0
                            currentMessageCategory=""
                            while [ $j -lt $count1 ]; do
                                msgCategory=`echo $output1 | jq
'.items['$i'].msgCategory'`
                                if [ !-z $currentMessageCategory ] ||
[ $currentMessageCategory != $msgCategory ]; then
                                    currentMessageCategory=msgCategory
                                    echo $currentMessageCategory
                                fi
                                echo `echo $output2 | jq
'.items['$i'].artifact'` " - " `echo $output2 | jq '.items['$i'].msgText'`
                                count2=`echo $output | jq '.links | length'`
                                k=0
                                firstPing=""
                                while [ $k -lt $count ]; do
                                    rel=`echo $output2 | jq
'.links['$i'].rel'`
                                    rel=`echo "$rel" | tr -d "\""`
```

```
                                    if [ "$rel" == "next" ]; then
                                            firstPing=`echo $output2 |
jq '.links['$i'].href'`
                                            firstPing=`echo
"$firstPing" | tr -d "\""`
                                    fi
                                    k=`expr $k + 1`
                                done
                                if [ -z $firstPing ]; then
                                    taskCompleted="true"
                                fi
                                j=`expr $j + 1`
                            done
                        done
                        i=`expr $i + 1`
                    done
                fi
            else
                echo "Please wait..."
                sleep 20
            fi

        else
            echo "Please wait..."
            sleep 20
        fi
        funcRemoveTempFiles "pingResponse.txt" "taskpingResponse.txt"
    done
}


funcGetLCMVersions() {
    url=$SERVER_URL/interop/rest
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "List of versions :"
        count=`echo $output | jq '.items | length'`
        i=0
        while [ $i -lt $count ]; do
            echo "Version : " `echo $output | jq
'.items['$i'].version'`
            echo "Lifecycle :" `echo $output | jq
'.items['$i'].lifecycle'`
            echo "Latest :" `echo $output | jq '.items['$i'].latest'`
            echo "Link :" `echo $output | jq
'.items['$i'].links[0].href'`
            echo ""
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
```

```
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcGetLCMVersionDetails() {
    url=$SERVER_URL/interop/rest/$API_VERSION
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Version $API_VERSION details :"
        count=`echo $output | jq '.links | length'`
        i=0
        while [ $i -lt $count ]; do
            echo "Service : " `echo $output | jq '.links['$i'].rel'`
            echo "URL :" `echo $output | jq '.links['$i'].href'`
            echo "Action :" `echo $output | jq '.links['$i'].action'`
            echo ""
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcGetServices() {
    url=$SERVER_URL/interop/rest/$API_VERSION/services
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Services list :"
        count=`echo $output | jq '.links | length'`
        i=0
        while [ $i -lt $count ]; do
            rel=`echo $output | jq '.links['$i'].rel'`
            rel=`echo "$rel" | tr -d "\""`
            if [ "$rel" != "self" ]; then
                echo "Service : " `echo $output | jq '.links['$i'].rel'`
                echo "URL :" `echo $output | jq '.links['$i'].href'`
                echo "Action :" `echo $output | jq '.links['$i'].action'`
                echo ""
            fi
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

```
funcRecreateService() {
    echo "Are you sure you want to recreate the EPM environment (yes/
no): no ?[Press Enter]"
    read toCreate
    if [ $toCreate != "yes" ]; then
        echo "User cancelled the recreate command"
        exit 0
    fi

    url=$SERVER_URL/interop/rest/$API_VERSION/services/$1/recreate
    funcExecuteRequest "POST" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started recreating the environment successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcGetApplicationSnapshotDetails() {
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Application details :"
        echo "Application snapshot name : " `echo $output | jq
'.items[0].name'`
        echo "Application snapshot type : " `echo $output | jq
'.items[0].type'`
        echo "Can be exported flag : " `echo $output | jq
'.items[0].canExport'`
        echo "Can be imported flag : " `echo $output | jq
'.items[0].canImport'`
        echo "Can be uploaded flag : " `echo $output | jq
'.items[0].canUpload'`
        echo "Can be downloaded flag : " `echo $output | jq
'.items[0].canDownload'`
        count=`echo $output | jq '.links | length'`
        i=0
        echo "Services details :"
        while [ $i -lt $count ]; do
            echo "Service : " `echo $output | jq '.links['$i'].rel'`
            echo "URL :" `echo $output | jq '.links['$i'].href'`
            echo "Action :" `echo $output | jq '.links['$i'].action'`
            echo ""
```

```
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcListFiles() {
    url=$SERVER_URL/interop/rest/$API_VERSION/applicationsnapshots
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    list=`cat response.txt | jq 'select(.items != null) | .items[].name'`
    if [[ ! -z $list ]]; then
        echo $list
    else
        echo "No files found"
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}


funcDeleteFile() {
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName
    funcExecuteRequest "DELETE" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Deleted successfully"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcUploadFile() {
    infile=$1
    if [ ! -f $infile ]; then
        echo "File does not exist"
        exit 0
    fi
    encodedFileName=$(echo $infile | sed -f urlencode.sed)
    url="$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/contents?q="
    filename=$( basename $infile)
    filesize=$( stat -c %s $infile)
    bs=52428800
    noOfPackets=$(($((filesize / bs)) + 1))
    uploadedsize=0
    isFirst=true
```

```
    count=1
    isLast="false"
    if [ $noOfPackets = 1 ]; then
      isLast="true"
    fi
    tempFile=/u01/temp/$filename

    if [ ! -d "/u01/temp" ]; then
        mkdir /u01/temp
    fi

    while [ $uploadedsize -ne $filesize ]
    do
        skip=$uploadedsize
        temp=$((filesize - uploadedsize))
        if [ $temp -le $bs ]; then
            length=$temp
        else
            length=$bs
        fi
        echo "Skip : $skip"
        echo "Length : $length"

        (
            dd bs=1 skip=$skip count=0 &> /dev/null
            dd bs=$length count=1 of=$tempFile &> /dev/null
        ) < "$infile"

        param=$(echo
"{chunkSize=$length,isFirst=$isFirst,isLast=$isLast}" | sed -f
urlencode.sed)
        urlwithparam="$url$param"
        echo $urlwithparam
        statusCode=`curl -X POST -s -w "%{http_code}" -T $tempFile -u
"$USERNAME:$PASSWORD" -o "response.txt" -D "respHeader.txt" -H
"Content-Type: application/octet-stream" "$urlwithparam"`

        funcRemoveTempFiles $tempFile

        if [ $statusCode == 200 ]; then
            output=`cat response.txt`
            status=`echo $output | jq '.status'`
            if [ $status -gt 0 ]; then
                error=`echo $output | jq '.details'`
                echo "Error occurred. " $error
                funcRemoveTempFiles "respHeader.txt" "response.txt"
                exit 0
            else if [ $status == -1 ] || [ $isLast == "true" ]; then
                    funcGetStatus "GET"
                fi
            fi
        else
            echo "Error executing request"
            if [ $statusCode != 000 ]; then
                echo "Response error code : " $statusCode
```

```
                funcPrintErrorDetails "response.txt"
                funcRemoveTempFiles "respHeader.txt" "response.txt"
            fi
            exit 0
        fi
        funcRemoveTempFiles "respHeader.txt" "response.txt"
        uploadedsize=$((uploadedsize + length))
        isFirst="false"
        echo "isFirst : $isFirst"
        count=$((count + 1))
        if [ $count = $noOfPackets ]; then
            isLast="true"
        fi
        echo "Uploaded Size : $uploadedsize"
        echo "isLast : $isLast"
    done

    echo "Uploaded File Successfully"
}

funcDownloadFile() {
    filepath="/u01/$1"
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/contents
    statusCode=`curl -X GET -s -w "%{http_code}" -u "$USERNAME:$PASSWORD" -
o $filepath -H "Content-Type: application/x-www-form-urlencoded" -D
respHeader.txt $url`

    if [ $statusCode == 200 ]; then
        contentType=`echo $(grep 'Content-Type:' respHeader.txt) | tr -d
[:space:]`
        if [ ! -z $contentType ] && [[ $contentType = *"application/
json"* ]]; then
            output=`cat $filepath`
            error=`echo $output | jq '.details'`
            echo "Error occurred. " $error
            funcRemoveTempFiles $filepath
        else
            fileExtension=`echo $(grep -r "fileExtension: " respHeader.txt |
awk  '{print ($2)}') | tr -d [:space:]`
            if [ ! -z $fileExtension ]; then
                if [[ ! $filepath =~ \.$fileExtension$ ]]; then
                    mv $filepath $filepath.$fileExtension
                fi
            fi
            echo "Downloaded file successfully"
        fi
    else
        echo "Error listing files. "
        if [ $statusCode != 000 ]; then
            echo "Response error code : " $statusCode
            funcPrintErrorDetails $filepath
            funcRemoveTempFiles $filepath
        fi
```

```
    fi
    funcRemoveTempFiles "respHeader.txt"
}

funcImportSnapshot() {
    param=$(echo "{type:import}" | sed -f urlencode.sed)
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/migration?q=$param
    funcExecuteRequest "POST" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started importing successfully"
        funcGetMigrationStatus "POST"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcExportSnapshot() {
    param=$(echo "{type:export}" | sed -f urlencode.sed)
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/migration?q=$param
    funcExecuteRequest "POST" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started exporting succesfully"
        funcGetMigrationStatus "POST"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcProvideFeedback() {
    url=$SERVER_URL/interop/rest/$LCM_VERSION/feedback
    description=$(echo $1 | sed -f urlencode.sed)
    param="{\"configuration\":
{\"URL\":\"$SERVER_URL\"},\"description\":\"$description\"}"
    funcExecuteRequest "POST" $url $param "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Feedback successful"
    else
        error=`echo $output | jq '.details'`
```

```
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcHardReset() {
    echo "Are you sure you want to restart the service instance (yes/no):
no ?[Press Enter] "
    read toCreate
    if [ $toCreate != "yes" ]; then
        echo "User cancelled the recreate command"
        exit 0
    fi

    url=$SERVER_URL/interop/rest/$LCM_VERSION/services/PBCS/resetservice
    comment=$(echo $1 | sed -f urlencode.sed)
    param="{\"comment\":\"$comment\"}"
    funcExecuteRequest "POST" $url $param "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started hard reset succesfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcGenerateAuditReport(){
    param=$(echo "{type:userauditreport,fileName:$1,since:$2,until:$3}" |
sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/reports?q=$param
    funcExecuteRequest "POST" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started generating report successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcGenerateProvisionReport(){
    param=$(echo "{type:provisionreport,fileName:$1}" | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/reports?q=$param
    funcExecuteRequest "POST" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
```

```
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started generating report successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}


funcExecuteJob() {
    url="$SERVER_URL/HyperionPlanning/rest/$API_VERSION/
applications/$APP_NAME/jobs"
    encodedJobName=$(echo $2 | sed -f urlencode.sed)
    if [ ! -z "$3" ]; then
        param="jobType=$1&jobName=$encodedJobName&parameters=$3"
    else
        param="jobType=$1&jobName=$encodedJobName"
    fi
    funcExecuteRequest "POST" $url $param "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started executing job successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcIntegrationScenarioImportMetadataIntoApplication() {
    funcUploadFile "DemoApplication_HSS_Vision.zip"
    funcExecuteJob "IMPORT_METADATA" "accountMetadata"
"{importZipFileName=accounts.zip}"
    funcExecuteJob "CUBE_REFRESH" "cubeRefresh"
}

funcIntegrationScenarioImportDataRunCalcCopyToAso() {
    funcUploadFile "data.csv"
    funcExecuteJob "IMPORT_DATA" "loadingq1data"
"{importFileName=data.csv}"
    funcExecuteJob "CUBE_REFRESH","cubeRefresh"
    funcExecuteJob "PLAN_TYPE_MAP" "CampaignToReporting"
"{clearData=false}"
}

funcIntegrationScenarioExportMetadataAndDataAndDownloadFiles() {
    funcExecuteJob "EXPORT_METADATA" "exportentitymetadata"
"{exportZipFileName=entitydata.zip}"
    funcExecuteJob "EXPORT_DATA" "Forecastdata"
```

```
"{exportFileName=forecastdata.zip}"
    funcListFiles
    funcDownloadFile "entitydata.zip"
    funcDownloadFile "forecastdata.zip"
}

funcIntegrationScenarioRemoveUnnecessaryFiles() {
    funcListFiles
    funcDeleteFile "entitymetadata.csv"
    funcDeleteFile "forecastdata.csv"
}

funcIntegrationScenarioExportDataAndDownloadFiles() {
    funcExecuteJob "EXPORT_DATA" "entitydata"
"{exportFileName:entitydata.zip}"
    funcExecuteJob "EXPORT_DATA" "forecastdata"
"{exportFileName:forecastdata.zip}"
    funcListFiles
    funcDownloadFile "entitydata.zip"
    funcDownloadFile "forecastdata.zip"
}

funcIntegrationScenarioRefreshTheApplication() {
    funcUploadFile "accounts.zip"
    funcExecuteJob "IMPORT_METADATA" "accountMetadata"
"{importZipFileName:accounts.zip}"
    funcExecuteJob "CUBE_REFRESH" "cubeRefresh"
}

funcIntegrationScenarioCloneServiceInstance() {
    # Part 1 : Change SERVER_URL, USERNAME, PASSWORD, API_VERSION variables
values to match those of first environment
    # Download file from source instance.
    # Comment out all lines below Part 2
    # Uncomment the below line for the first step.
    # funcDownloadFile "Artifact Snapshot"

    # Part 2 : Change SERVER_URL, USERNAME, PASSWORD, API_VERSION to match
those of second environment.
    # Clone the service instance.
    # Comment out code for download file.
    # Uncomment below lines
    funcRecreateService "PBCS"
    funcDeleteFile "Artifact Snapshot"
    funcUploadFile "Artifact Snapshot.zip"
    funcImportSnapshot "Artifact Snapshot"
}

funcIntegrationScenarioImportMetadataIntoApplication
funcIntegrationScenarioImportDataRunCalcCopyToAso
funcIntegrationScenarioExportMetadataAndDataAndDownloadFiles
funcIntegrationScenarioRemoveUnnecessaryFiles
funcIntegrationScenarioExportDataAndDownloadFiles
funcIntegrationScenarioRefreshTheApplication#!/bin/sh
```

```
SERVER_URL="https://<SERVICE_NAME>-
<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/"
USERNAME="epm_default_cloud_admin"
PASSWORD="epm_cloud"
APP_NAME="Vision"
API_VERSION="11.1.2.3.600"

funcRemoveTempFiles() {
    for var in "$@"
    do
        if [ -f $var ]; then
            rm $var
        fi
    done
}

funcPrintErrorDetails() {
    contentType=`echo $(grep 'Content-Type:' respHeader.txt) | tr -d
[:space:]`
    if [ ! -z $contentType ] && [[ $contentType = *"application/
json"* ]]; then
        output=`cat $1`
        error=`echo $output | jq '.details'`
        echo "Error details: " $error
    fi
}

funcExecuteRequest() {
    if [ ! -z "$4" ]; then
        statusCode=`curl -X $1 -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o "response.txt" -D "respHeader.txt" -H
"Content-Type: $4" -d $3 $2`
    else
        statusCode=`curl -X $1 -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o "response.txt" -D "respHeader.txt" -H
"Content-Type: $3" $2`
    fi
    if [ $statusCode != 200 ]; then
        echo "Error executing request"
        if [ $statusCode != 000 ]; then
            echo "Response error code : " $statusCode
            funcPrintErrorDetails "response.txt"
            funcRemoveTempFiles "respHeader.txt" "response.txt"
        fi
        exit 0
    fi
}

funcGetStatus() {
    output=`cat response.txt`
    count=`echo $output | jq '.links | length'`
    i=0
    pingUrl=""
    while [ $i -lt $count ]; do
        rel=`echo $output | jq '.links['$i'].rel'`
```

```
        rel=`echo "$rel" | tr -d "\""`
        if [ "$rel" == "Job Status" ]; then
                pingUrl=`echo $output | jq '.links['$i'].href'`
                pingUrl=`echo "$pingUrl" | tr -d "\""`
        fi
        i=`expr $i + 1`
    done
    echo $pingUrl
    completed="false"
    while [ $completed != "true" ]; do
        statusCode2=`curl -X $1 -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o "pingResponse.txt"  -H "Content-Type: application/x-
www-form-urlencoded" "$pingUrl"`
        if [ $statusCode2 == 200 ]; then
            status2=`jq '.status' pingResponse.txt`
            if [ $status2 != -1 ]; then
                completed="true"
                echo "Job completed"
            else
                echo "Please wait..."
                sleep 20
            fi

        else
            echo "Please wait..."
            sleep 20
        fi
        funcRemoveTempFiles "pingResponse.txt"
    done
}

funcGetLCMVersions() {
    url=$SERVER_URL/interop/rest
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "List of versions :"
        count=`echo $output | jq '.items | length'`
        i=0
        while [ $i -lt $count ]; do
            echo "Version : " `echo $output | jq '.items['$i'].version'`
            echo "Lifecycle :" `echo $output | jq '.items['$i'].lifecycle'`
            echo "Latest :" `echo $output | jq '.items['$i'].latest'`
            echo "Link :" `echo $output | jq '.items['$i'].links[0].href'`
            echo ""
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

```
funcGetLCMVersionDetails() {
    url=$SERVER_URL/interop/rest/$API_VERSION
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Version $API_VERSION details :"
        count=`echo $output | jq '.links | length'`
        i=0
        while [ $i -lt $count ]; do
            echo "Service : " `echo $output | jq '.links['$i'].rel'`
            echo "URL :" `echo $output | jq '.links['$i'].href'`
            echo "Action :" `echo $output | jq '.links['$i'].action'`
            echo ""
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcGetServices() {
    url=$SERVER_URL/interop/rest/$API_VERSION/services
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Services list :"
        count=`echo $output | jq '.links | length'`
        i=0
        while [ $i -lt $count ]; do
            rel=`echo $output | jq '.links['$i'].rel'`
            rel=`echo "$rel" | tr -d "\""`
            if [ "$rel" != "self" ]; then
                echo "Service : " `echo $output | jq
'.links['$i'].rel'`
                echo "URL :" `echo $output | jq '.links['$i'].href'`
                echo "Action :" `echo $output | jq
'.links['$i'].action'`
                echo ""
            fi
            i=`expr $i + 1`
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}
```

```
funcRecreateService() {
    echo "Are you sure you want to recreate the EPM environment (yes/no):
no ?[Press Enter]"
    read toCreate
    if [ $toCreate != "yes" ]; then
        echo "User cancelled the recreate command"
        exit 0
    fi

    url=$SERVER_URL/interop/rest/$API_VERSION/services/$1/recreate
    funcExecuteRequest "POST" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started recreating the environment successfully"
        funcGetStatus "GET"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcGetApplicationSnapshotDetails() {
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Application details :"
        echo "Application snapshot name : " `echo $output | jq
'.items[0].name'`
        echo "Application snapshot type : " `echo $output | jq
'.items[0].type'`
        echo "Can be exported flag : " `echo $output | jq
'.items[0].canExport'`
        echo "Can be imported flag : " `echo $output | jq
'.items[0].canImport'`
        echo "Can be uploaded flag : " `echo $output | jq
'.items[0].canUpload'`
        echo "Can be downloaded flag : " `echo $output | jq
'.items[0].canDownload'`
        count=`echo $output | jq '.links | length'`
        i=0
        echo "Services details :"
        while [ $i -lt $count ]; do
            echo "Service : " `echo $output | jq '.links['$i'].rel'`
            echo "URL :" `echo $output | jq '.links['$i'].href'`
            echo "Action :" `echo $output | jq '.links['$i'].action'`
            echo ""
            i=`expr $i + 1`
```

```
        done
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcListFiles() {
    url=$SERVER_URL/interop/rest/$API_VERSION/applicationsnapshots
    funcExecuteRequest "GET" $url "application/x-www-form-urlencoded"

    list=`cat response.txt | jq 'select(.items != null)
| .items[].name'`
    if [[ ! -z $list ]]; then
        echo $list
    else
        echo "No files found"
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}


funcDeleteFile() {
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName
    funcExecuteRequest "DELETE" $url "application/x-www-form-
urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == 0 ]; then
        echo "Deleted successfully"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcUploadFile() {
    infile=$1
    if [ ! -f $infile ]; then
        echo "File does not exist"
        exit 0
    fi
    encodedFileName=$(echo $infile | sed -f urlencode.sed)
    url="$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/contents?q="
    filename=$( basename $infile)
    filesize=$( stat -c %s $infile)
    bs=52428800
    noOfPackets=$(($((filesize / bs)) + 1))
    uploadedsize=0
```

```
    isFirst=true
    count=1
    isLast="false"
    if [ $noOfPackets = 1 ]; then
      isLast="true"
    fi
    tempFile=/u01/temp/$filename

    if [ ! -d "/u01/temp" ]; then
        mkdir /u01/temp
    fi

    while [ $uploadedsize -ne $filesize ]
    do
        skip=$uploadedsize
        temp=$((filesize - uploadedsize))
        if [ $temp -le $bs ]; then
            length=$temp
        else
            length=$bs
        fi
        echo "Skip : $skip"
        echo "Length : $length"

        (
            dd bs=1 skip=$skip count=0 &> /dev/null
            dd bs=$length count=1 of=$tempFile &> /dev/null
        ) < "$infile"

        param=$(echo "{chunkSize=$length,isFirst=$isFirst,isLast=$isLast}" |
sed -f urlencode.sed)
        urlwithparam="$url$param"
        echo $urlwithparam
        statusCode=`curl -X POST -s -w "%{http_code}" -T $tempFile -u
"$USERNAME:$PASSWORD" -o "response.txt" -D "respHeader.txt" -H "Content-
Type: application/octet-stream" "$urlwithparam"`

        funcRemoveTempFiles $tempFile

        if [ $statusCode == 200 ]; then
            output=`cat response.txt`
            status=`echo $output | jq '.status'`
            if [ $status != 0 ]; then
                error=`echo $output | jq '.details'`
                echo "Error occurred. " $error
                funcRemoveTempFiles "respHeader.txt" "response.txt"
                exit 0
            fi
        else
            echo "Error executing request"
            if [ $statusCode != 000 ]; then
                echo "Response error code : " $statusCode
                funcPrintErrorDetails "response.txt"
                funcRemoveTempFiles "respHeader.txt" "response.txt"
            fi
```

```
            exit 0
        fi
        funcRemoveTempFiles "respHeader.txt" "response.txt"
        uploadedsize=$((uploadedsize + length))
        isFirst="false"
        echo "isFirst : $isFirst"
        count=$((count + 1))
        if [ $count = $noOfPackets ]; then
            isLast="true"
        fi
        echo "Uploaded Size : $uploadedsize"
        echo "isLast : $isLast"
    done

    echo "Uploaded File Successfully"
}

funcDownloadFile() {
    filepath="/u01/$1"
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/contents
    statusCode=`curl -X GET -s -w "%{http_code}" -u
"$USERNAME:$PASSWORD" -o $filepath -H "Content-Type: application/x-www-
form-urlencoded" -D respHeader.txt $url`

    if [ $statusCode == 200 ]; then
        contentType=`echo $(grep 'Content-Type:' respHeader.txt) | tr -
d [:space:]`
        if [ ! -z $contentType ] && [[ $contentType = *"application/
json"* ]]; then
            output=`cat $filepath`
            error=`echo $output | jq '.details'`
            echo "Error occurred. " $error
            funcRemoveTempFiles $filepath
        else
            fileExtension=`echo $(grep -r "fileExtension: "
respHeader.txt | awk  '{print ($2)}') | tr -d [:space:]`
            if [ ! -z $fileExtension ]; then
                if [[ ! $filepath =~ \.$fileExtension$ ]]; then
                    mv $filepath $filepath.$fileExtension
                fi
            fi
            echo "Downloaded file successfully"
        fi
    else
        echo "Error listing files. "
        if [ $statusCode != 000 ]; then
            echo "Response error code : " $statusCode
            funcPrintErrorDetails $filepath
            funcRemoveTempFiles $filepath
        fi
    fi
    funcRemoveTempFiles "respHeader.txt"
}
```

```
funcImportSnapshot() {
    param=$(echo "{type:import}" | sed -f urlencode.sed)
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/migration?q=$param
    funcExecuteRequest "POST" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started importing successfully"
        funcGetStatus "POST"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcExportSnapshot() {
    param=$(echo "{type:export}" | sed -f urlencode.sed)
    encodedFileName=$(echo $1 | sed -f urlencode.sed)
    url=$SERVER_URL/interop/rest/$API_VERSION/
applicationsnapshots/$encodedFileName/migration?q=$param
    funcExecuteRequest "POST" $url "application/x-www-form-urlencoded"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started exporting successfully"
        funcGetStatus "POST"
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcExecuteJob() {
    url="$SERVER_URL/HyperionPlanning/rest/$API_VERSION/
applications/$APP_NAME/jobs"
    encodedJobName=$(echo $2 | sed -f urlencode.sed)
    if [ ! -z "$3" ]; then
        param="jobType=$1&jobName=$encodedJobName&parameters=$3"
    else
        param="jobType=$1&jobName=$encodedJobName"
    fi
    funcExecuteRequest "POST" $url $param "application/json"

    output=`cat response.txt`
    status=`echo $output | jq '.status'`
    if [ $status == -1 ]; then
        echo "Started executing job successfully"
        funcGetStatus "GET"
```

```
    else
        error=`echo $output | jq '.details'`
        echo "Error occurred. " $error
    fi
    funcRemoveTempFiles "respHeader.txt" "response.txt"
}

funcIntegrationScenarioImportMetadataIntoApplication() {
    funcUploadFile "DemoApplication_HSS_Vision.zip"
    funcExecuteJob "IMPORT_METADATA" "accountMetadata"
"{importZipFileName=accounts.zip}"
    funcExecuteJob "CUBE_REFRESH" "cubeRefresh"
}

funcIntegrationScenarioImportDataRunCalcCopyToAso() {
    funcUploadFile "data.csv"
    funcExecuteJob "IMPORT_DATA" "loadingq1data"
"{importFileName=data.csv}"
    funcExecuteJob "CUBE_REFRESH","cubeRefresh"
    funcExecuteJob "PLAN_TYPE_MAP" "CampaignToReporting"
"{clearData=false}"
}

funcIntegrationScenarioExportMetadataAndDataAndDownloadFiles() {
    funcExecuteJob "EXPORT_METADATA" "exportentitymetadata"
"{exportZipFileName=entitydata.zip}"
    funcExecuteJob "EXPORT_DATA" "Forecastdata"
"{exportFileName=forecastdata.zip}"
    funcListFiles
    funcDownloadFile "entitydata.zip"
    funcDownloadFile "forecastdata.zip"
}

funcIntegrationScenarioRemoveUnnecessaryFiles() {
    funcListFiles
    funcDeleteFile "entitymetadata.csv"
    funcDeleteFile "forecastdata.csv"
}

funcIntegrationScenarioExportDataAndDownloadFiles() {
    funcExecuteJob "EXPORT_DATA" "entitydata"
"{exportFileName:entitydata.zip}"
    funcExecuteJob "EXPORT_DATA" "forecastdata"
"{exportFileName:forecastdata.zip}"
    funcListFiles
    funcDownloadFile "entitydata.zip"
    funcDownloadFile "forecastdata.zip"
}

funcIntegrationScenarioRefreshTheApplication() {
    funcUploadFile "accounts.zip"
    funcExecuteJob "IMPORT_METADATA" "accountMetadata"
"{importZipFileName:accounts.zip}"
    funcExecuteJob "CUBE_REFRESH" "cubeRefresh"
}
```

```
funcIntegrationScenarioCloneServiceInstance() {
    # Part 1 : Change SERVER_URL, USERNAME, PASSWORD, API_VERSION variables
values to match those of first environment
    # Download file from source instance.
    # Comment out all lines below Part 2
    # Uncomment the below line for the first step.
    # funcDownloadFile "Artifact Snapshot"

    # Part 2 : Change SERVER_URL, USERNAME, PASSWORD, API_VERSION to match
those of second environment.
    # Clone the service instance.
    # Comment out code for download file.
    # Uncomment below lines
    funcRecreateService "PBCS"
    funcDeleteFile "Artifact Snapshot"
    funcUploadFile "Artifact Snapshot.zip"
    funcImportSnapshot "Artifact Snapshot"
}

funcIntegrationScenarioImportMetadataIntoApplication
funcIntegrationScenarioImportDataRunCalcCopyToAso
funcIntegrationScenarioExportMetadataAndDataAndDownloadFiles
funcIntegrationScenarioRemoveUnnecessaryFiles
funcIntegrationScenarioExportDataAndDownloadFiles
funcIntegrationScenarioRefreshTheApplication
```

Note on Proxy Setting: In case of proxies, set the proxy host and port as the system arguments.

D

CSS Common Helper Functions for cURL

This appendix shows the CSS common helper functions for cURL for the EPM Cloud REST APIs.

Note on Proxy Setting: In case of proxies, set the proxy host and port as the system arguments.

```
#!/bin/sh
#set -x
export PATH=$PATH:<PATH_TO_JQ_BINARY>
SERVER_URL="<SERVICE_URL>"
USERNAME="<USERNAME>"
PASSWORD="<PASSWORD>"
API_VERSION="v1"

# To avoid SSL connection issue in the environment please add -k option for
below curl commands.
funcCallRESTAPI() {
    if [ "$1" == "GET" ] || [ "$1" == "DELETE" ]; then
        if [ "$6" != "" ]; then
            echo `curl -s -u $4:$5 -H "$3" --request $1 -G $2 -d "$6"`
        else
            echo `curl -s -u $4:$5 -H "$3" --request $1 -G $2`
        fi
    else
                if [ "$6" != "" ]; then
                        echo `curl -s -u $4:$5 -H "$3" --request $1 $2 -d
"$6"`
                else
                        echo `curl -s -u $4:$5 -H "$3" --request $1 $2`
                fi
    fi
}

funcCSSRESTHelper() {
        jobOutput=$(funcCallRESTAPI "$1" "$2" "$3" "$4" "$5" "$6")
        jobUrl=`echo $jobOutput | jq '.links[1].href'`
        if [ $jobUrl != null ]; then
                jobUrl="${jobUrl%\"}"
                jobUrl="${jobUrl#\"}"
                jobStatus=-1
                while [ $jobStatus == -1 ]; do
                        jobOutput=$(funcCallRESTAPI "GET" "$jobUrl"
"$header" "$USERNAME" "$PASSWORD")
                        jobStatus=`echo $jobOutput | jq '.status'`
                done
                restStatus=`echo $jobOutput | jq '.details'`
                restStatus="${restStatus%\"}"
                restStatus="${restStatus#\"}"
```

```
                statusMessage=""
                if [ $jobStatus == 0 ]; then
                        statusMessage="$7 completed successfully."
#"$restStatus"
                else
                        statusMessage=$restStatus
                fi
                   echo "$statusMessage"
        else
                failedMessage=`echo $jobOutput | jq '.details'`
        failedMessage="${failedMessage%\"}"
                failedMessage="${failedMessage#\"}"
                echo $failedMessage
        fi
}

funcAddUsers() {
    url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
    params="filename=$1&userpassword=$2&resetpassword=$3"
    header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
    cssRESTAPI="AddUsers"
    statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
    echo $statusMessage
}

funcRemoveUsers() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="RemoveUsers"
        statusMessage=$(funcCSSRESTHelper "DELETE" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcAssignRole() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1&jobtype=ASSIGN_ROLE&rolename=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="AssignRole"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcUnassignRole() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1&jobtype=UNASSIGN_ROLE&rolename=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="UnassignRole"
```

```
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcAddUsersToGroup() {
    url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
    params="filename=$1&jobtype=ADD_USERS_TO_GROUP&groupname=$2"
    header="Content-Type: application/x-www-form-urlencoded;charset=UTF-8"
    cssRESTAPI="AddUsersToGroup"
    statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
    echo $statusMessage
}

funcRemoveUsersFromGroup() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1&jobtype=REMOVE_USERS_FROM_GROUP&groupname=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="RemoveUsersFromGroup"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcAddUserToGroups() {
    url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
    params="filename=$1&jobtype=ADD_USER_TO_GROUPS&username=$2"
    header="Content-Type: application/x-www-form-urlencoded;charset=UTF-8"
    cssRESTAPI="AddUserToGroups"
    statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
    echo $statusMessage
}

funcRemoveUserFromGroups() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1&jobtype=REMOVE_USER_FROM_GROUPS&username=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="RemoveUserFromGroups"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcGenerateRoleAssignmentReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
roleassignmentreport"
        params="filename=$1&usertype=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateRoleAssignmentReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
```

```
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcGenerateUserGroupReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
usergroupreport"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateUserGroupReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcAddGroups() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="addGroups"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcRemoveGroups() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="removeGroups"
        statusMessage=$(funcCSSRESTHelper "DELETE" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcGenerateInvalidLoginReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
invalidloginreport"
     params="from_date=$1&to_date=$2&filename=$3"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateInvalidLoginReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcGenerateRoleAssignmentAuditReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
roleassignmentauditreport"
      params="from_date=$1&to_date=$2&filename=$3"
        header="Content-Type: application/x-www-form-
```

```
urlencoded;charset=UTF-8"
        cssRESTAPI="generateRoleAssignmentAuditReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcUpdateUsers() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1&jobtype=UPDATE_USERS"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="UpdateUsers"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

#funcAddUsers test1.csv password false
#funcRemoveUsers test2.csv
#funcAssignRole test3.csv "Power User"
#funcUnAssignRole test4.csv Viewer
#funcAddUsersToGroup test5.csv TestNativeGroup1
#funcRemoveUsersFromGroup test6.csv TestNativeGroup2
#funcGenerateRoleAssignmentReport RoleAssignmentReport.csv ServiceUsers
#funcGenerateUserGroupReport UserGroupReport.csv
#funcAddUserToGroups groups.csv joe
#funcRemoveUserFromGroups groups.csv joe
#funcAddGroups CreateGroup1.csv
#funcRemoveGroups DeleteGroup1.csv
#funcGenerateInvalidLoginReport 2021-06-01 2021-06-10 invalidLoginReport.csv
#funcGenerateRoleAssignmentAuditReport 2021-06-01 2021-06-10
roleAssignmentAuditReport.csv
#funcUpdateUsers updateuser.csv
```

E

CSS Common Helper Functions for Groovy

This appendix shows the CSS common helper functions for Groovy for the EPM Cloud REST APIs.

Note:

- **Proxy setting**: In case of proxies, set the proxy host and port as the system arguments.
- **Username**: The `username` variable uses the format <*domain*>.<*username*>. Authentication.

```
import java.nio.charset.StandardCharsets

import groovy.json.JsonSlurper

serverUrl="<SERVICE_URL>"
username="<DOMAINNAME.USERNAME>"
password="<PASSWORD>"

apiVersion = "v1";
userCredentials = username + ":" + password;
basicAuth = "Basic " +
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getBytes()
)

def getResponse(is) {
    BufferedReader br = new BufferedReader(new InputStreamReader(is));
    StringBuilder sb = new StringBuilder();
    String line;
    while ((line = br.readLine()) != null) {
        sb.append(line+"\n");
    }
    br.close();
    return sb.toString();
}

def getUrlFromResponse(scenario, response, relValue) {
    def object = new JsonSlurper().parseText(response)
    def pingUrlStr
    if (object.status == -1) {
        println "Started - " + scenario
        def links = object.links
        links.each{
            if (it.rel.equals(relValue)) {
                pingUrlStr=it.href
            }
        }
    } else {
        println "Error details: " + object.details
        System.exit(0);
```

```
    }
    return pingUrlStr
}

def getJobStatus(pingUrlString, methodType) {

    def pingUrl = new URL(pingUrlString);
    def completed = false;
    while (!completed) {
        pingResponse = executeRequest(pingUrl, methodType, null,
"application/x-www-form-urlencoded");
        status = getJobStatusFromResponse(pingResponse);
        if (status == "Processing") {
            try {
                println "Processing. Please wait..."
                Thread.sleep(5000);
            } catch (InterruptedException e) {
                completed = true
            }
        } else {
            println status
            completed = true
        }
    }
}

def getJobStatusFromResponse(response) {
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == -1)
        return "Processing"
    else if (status == 0)
        return "Completed"
    else
        return object.details
}

def getJobDetailsFromResponse(response) {
    def object = new JsonSlurper().parseText(response)
    def details = object.details
    if (details != null)
        return object.details
    else
        return null
}

def executeRequest(url, requestType, payload, contentType) {
    HttpURLConnection connection = (HttpURLConnection)
url.openConnection();
    connection.setDoOutput(true);
    connection.setInstanceFollowRedirects(false);
    connection.setRequestMethod(requestType);
    connection.setRequestProperty("Content-Type", contentType);
    //           connection.setRequestProperty("charset",
StandardCharsets.UTF_8);
```

```
    connection.setRequestProperty("Authorization", basicAuth);
    connection.setUseCaches(false);

    if (payload != null) {
        OutputStreamWriter writer = new
OutputStreamWriter(connection.getOutputStream());
        writer.write(payload);
        writer.flush();
    }

    int statusCode
    try {
        statusCode = connection.responseCode;
    } catch (all) {
        println "Error connecting to the URL"
        System.exit(0);
    }

    def response
    if (statusCode == 200 || statusCode == 201) {
        if (connection.getContentType() != null && !
connection.getContentType().startsWith("application/json")) {
            println "Error occurred in server"
            System.exit(0)
        }
        InputStream is = connection.getInputStream();
        if (is != null)
            response = getResponse(is)
    } else {
        println "Error occurred while executing request"
        println "Response error code : " + statusCode
        InputStream is = connection.getErrorStream();
        if (is != null && connection.getContentType() != null &&
connection.getContentType().startsWith("application/json"))
            println getJobStatusFromResponse(getResponse(is))
        System.exit(0);
    }
    connection.disconnect();
    return response;
}

def addUsersToGroup(fileName, groupName) {

    String scenario = "Adding users in " + fileName + " to group " +
groupName;
    String params = "jobtype=ADD_USERS_TO_GROUP&filename="+ fileName
+"&groupname="+ groupName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
```

```
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def removeUsersFromGroup(fileName, groupName) {

    String scenario = "Removing users in " + fileName + " from group "
+ groupName;
    String params = "jobtype=REMOVE_USERS_FROM_GROUP&filename="+
fileName +"&groupname="+ groupName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def addUserToGroups(fileName, userName) {

    String scenario = "Adding users in " + fileName + " to group " +
userName;
    String params = "jobtype=ADD_USER_TO_GROUPS&filename="+ fileName
+"&username="+ userName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}
```

```
def removeUserFromGroups(fileName, userName) {

    String scenario = "Removing users in " + fileName + " from group " +
userName;
    String params = "jobtype=REMOVE_USER_FROM_GROUPS&filename="+ fileName
+"&username="+ userName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def addUsers(fileName, resetPassword, userPassword) {

    String scenario = "Creating users in " + fileName;
    String params = "jobtype=ADD_USERS&filename="+ fileName
+"&resetpassword="+ resetPassword +"&userpassword="+ userPassword;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def addUsers(fileName) {
    addUsers(fileName, null, null);
}

def deleteUsers(fileName) {

    String scenario = "Deleting users in " + fileName;
    String params = null;
    def url = null;
    def response = null;
```

```
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/users?filename=" + fileName);
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "DELETE", null, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def assignUsersRoles(fileName, roleName) {

    String scenario = "Assigning users in " + fileName + " with role "
+ roleName;
    String params = "jobtype=ASSIGN_ROLE&filename="+ fileName
+"&rolename="+ roleName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def unassignUsersRoles(fileName, roleName) {

    String scenario = "Un-assigning users in " + fileName + " with
role " + roleName;
    String params = "jobtype=UNASSIGN_ROLE&filename="+ fileName
+"&rolename="+ roleName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
```

```
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def generateRoleAssignmentReport(fileName, userType) {

    String scenario = "Generating Role assignment report in " + fileName + "
with usertype as " + userType;
    String params = "jobtype=GENERATE_ROLE_ASSIGNMENT_REPORT&filename="+
fileName + "&usertype=" + userType;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
roleassignmentreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def generateUserGroupReport(fileName) {

    String scenario = "Generating User Group Report in " + fileName;
    String params = "jobtype=GENERATE_USER_GROUP_REPORT&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
usergroupreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def addGroups(fileName) {
    println "addgroups"
    String scenario = "Creating Groups in " + fileName;
    String params = "filename="+ fileName;
    def url = null;
```

```
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def removeGroups(fileName) {

    String scenario = "Deleting Groups in " + fileName;
    String params = null;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups?filename=" + fileName);
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "DELETE", null, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def generateRoleAssignmentAuditReport(from_date,to_date,fileName) {

    String scenario = "Generating Role assignment audit report in " +
fileName;
    String params =
"jobtype=GENERATE_ROLE_ASSIGNMENT_AUDIT_REPORT&from_date="+from_date+"&
to_date="+to_date+"&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/roleassignmentauditreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-
form-urlencoded");
```

```
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def generateInvalidLoginReport(from_date,to_date,fileName) {

    String scenario = "Generating Invalid Login report in " + fileName;
    String params =
"jobtype=GENERATE_INVALID_LOGIN_REPORT&from_date="+from_date+"&to_date="+to_d
ate+"&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
invalidloginreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def updateUsers(fileName) {

    String scenario = "Updating users from " + fileName ;
    String params = "jobtype=UPDATE_USERS&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

//Execute commands here
//addUsersToGroup("Users.csv",
"G1");
                    //PUT
//removeUsersFromGroup("Users.csv",
```

```
"G1");
           //PUT
//addUsers("AddUsers123.csv", "false",
"newPassword");                                          //POST
//
addUsers("AddUsers456.csv");

               //POST
//
deleteUsers("RemoveUsers.csv");
                                                                    //
DELETE
//assignUsersRoles("Users.csv", "Service
Administrator");                            //PUT
//assignUsersRoles("users.csv",
"viewer");                                                         //P
UT
//unassignUsersRoles("Users.csv", "Drill
Through");                                                    //PUT
//
generateRoleAssignmentReport("GroovySampleReport3.csv,"ServiceUsers");
                                 // POST
//
generateUserGroupReport("UserGroupReportGroovy.csv");
                   // POST
//addUserToGroups("Group.csv",
"user1");                                                 //PUT
//removeUserFromGroups("groups.csv",
"joe");                                              //PUT
//
addGroups("CreateGroup1.csv");
       // POST
//
removeGroups("DeleteGroup1.csv");
          // DELETE
//generateInvalidLoginReport("2020-06-01", "2021-06-10",
"report12345.csv"); //POST
//updateUsers("updateuser.csv");                                  // PUT
```

F

REST API Examples with Postman

This appendix provides examples of how to run selected REST APIs using a web client called Postman.

Example: Using REST APIs to Upload with Postman

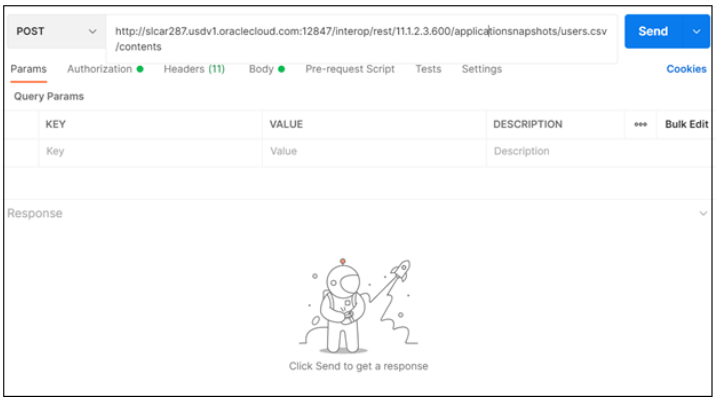
In this example, we upload a file named `users.csv` to our environment, `https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>. oraclecloud.com/.`

For an example of coding parameters, scroll down to the end of this topic.

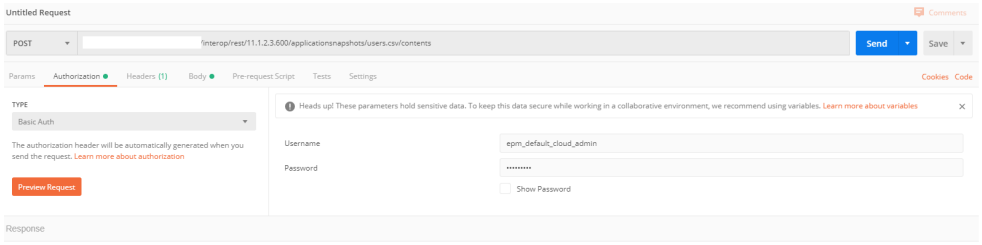
Notes:

- This example uses the 11.1.2.3.600 Upload API, which is a simpler non-chunked version.
- The name of the file is passed in the URL itself, for example, `https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/interop/rest/11.1.2.3.600/applicationsnapshots/users.csv/contents`
- If the filename contains special characters or has whitespace, it should be encoded using any online resource, such as urlencode.org.

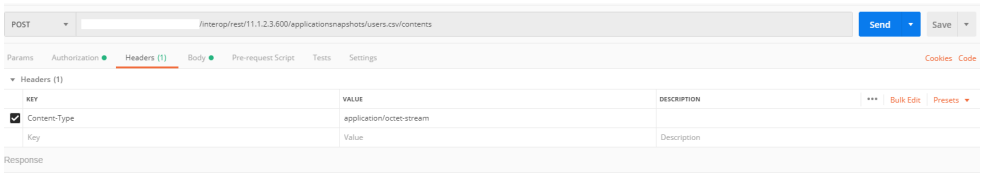
1. Example of Upload parameters.



2. Example of Upload authorization.

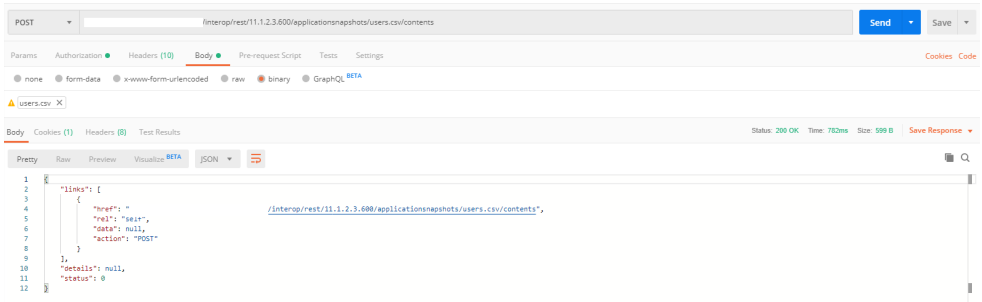


3. Example of Upload headers.



4. Example of Upload body.

5. Example of Upload response on success.



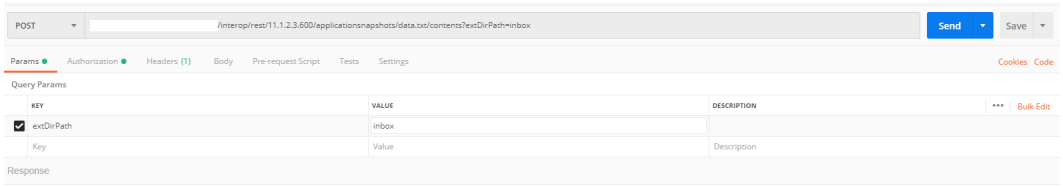
Example: Using REST APIs to Upload to an External Directory with Postman

In this example, we upload a file named `data.txt` to the inbox directory in our environment, `https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>. oraclecloud.com/.`

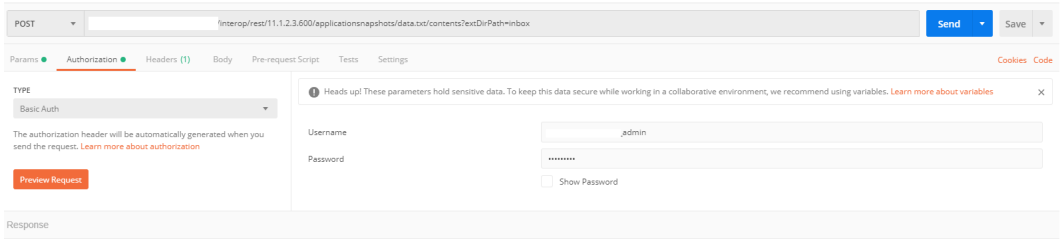
Notes:

- This example uses the 11.1.2.3.600 Upload API, which is a simpler non-chunked version.
- The name of the file is passed in the URL itself, for example, `https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>. oraclecloud.com/interop/rest/11.1.2.3.600/applicationsnapshots/data.txt/contents?extDirPath=inbox`
- If the filename contains special characters or has white space, it must be encoded using any online resource, such as `urlencode.org` . (See an example at the bottom of this topic: Example: Using REST APIs to Upload with Postman .)

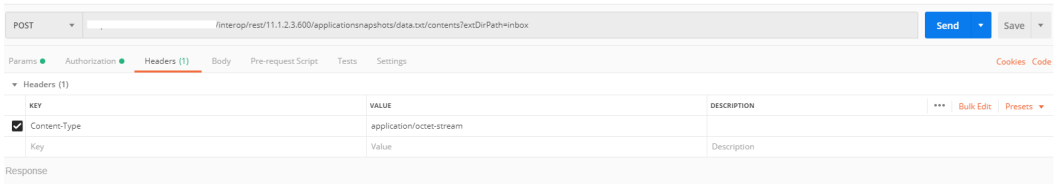
1. Example of parameters for Upload to external directory.



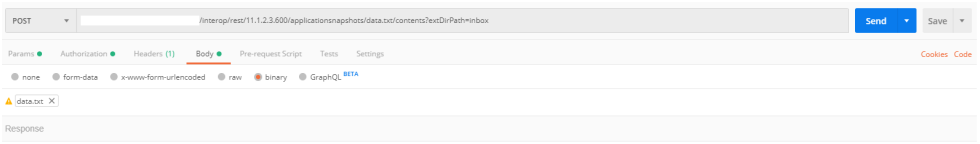
2. Example of authorization for Upload to external directory.



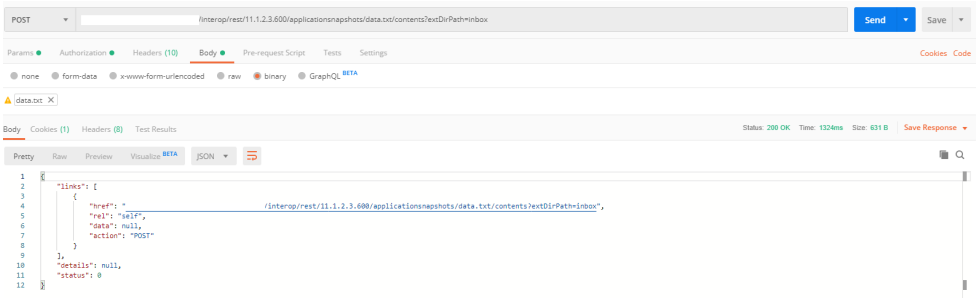
3. Example of Upload to external directory headers.



4. Example of Upload to external directory body.



5. Example of Upload to external directory response on success.



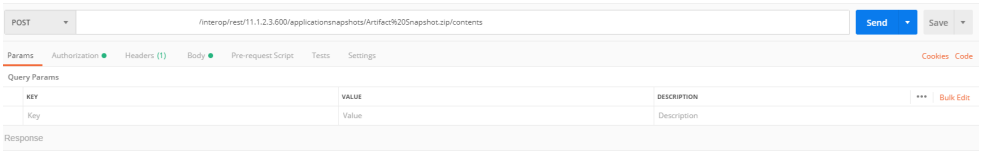
Example: Using REST APIs to Upload a Snapshot with Postman

In this example, we upload a snapshot named `Artifact Snapshot.zip` to our environment , `https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>.oraclecloud.com/`.

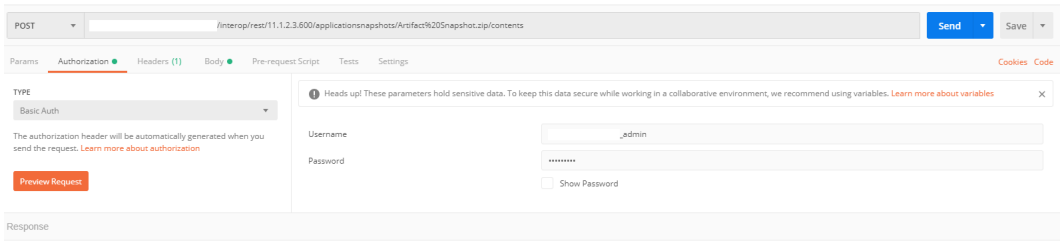
Notes:

- We are using the 11.1.2.3.600 Upload API, which is a simpler non-chunked version.
- The name of the file is passed in the URL itself, for example, `https://<SERVICE_NAME>-<TENANT_NAME>.<SERVICE_TYPE>.<dcX>. oraclecloud.com/interop/rest/11.1.2.3.600/applicationsnapshots/Artifact%20Snapshot.zip/contents`
- If the filename contains special characters or has white space, it must be encoded using any online resource, such as `urlencode.org`

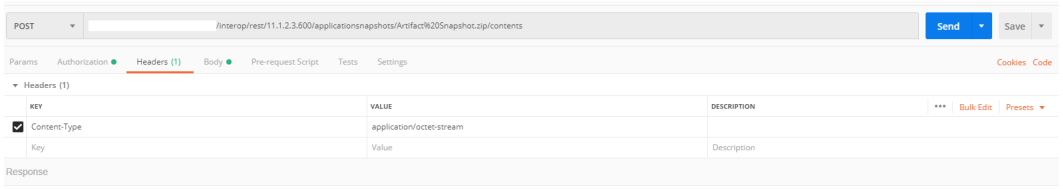
1. Example of Upload snapshot parameters.



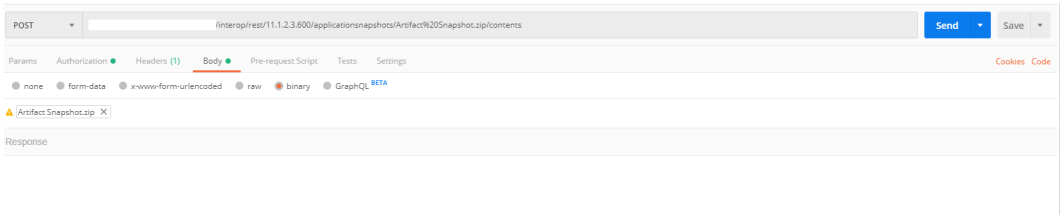
2. Example of Upload Snapshot authorization.



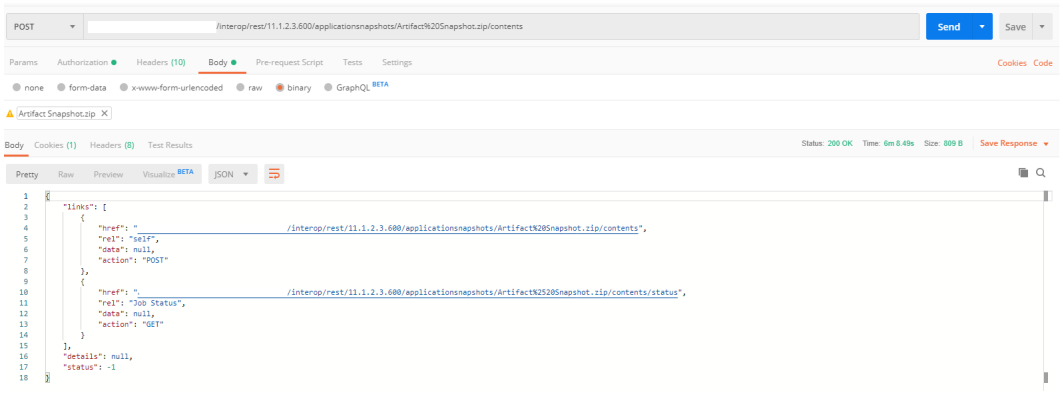
3. Example of Upload Snapshot headers.



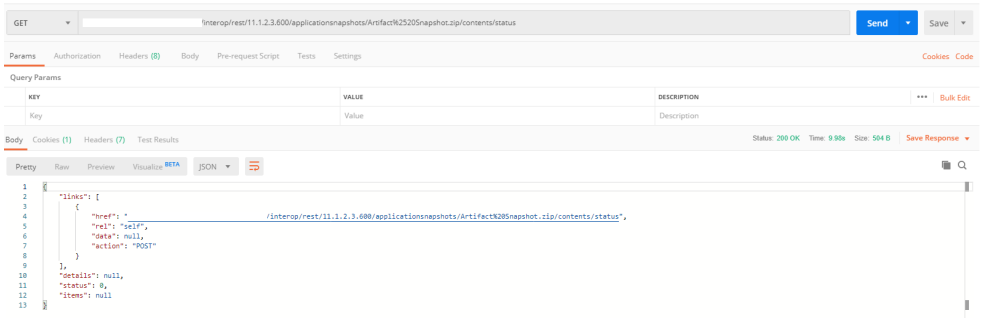
4. Example of Upload Snapshot body.



5. Example of Upload Snapshot response on success.



6. Example of checking status for Upload Snapshot .


GET
/interop/rest/11.1.2.3.600/applicationsnapshots/Artifact%25205napshot.zip/contents/status
Send
Save
Params
Authorization
Headers (8)
Body
Pre-request Script
Tests
Settings
Cookies
Code
Query Params
KEY
VALUE
DESCRIPTION
Bulk Edit
Key
Value
Description
Body
Cookies (1)
Headers (7)
Test Results
Status: 200 OK
Time: 9.98s
Size: 504 B
Save Response
Pretty
Raw
Preview
Visualize BETA
JSON
{
"links": [
{
"href": "
/interop/rest/11.1.2.3.600/applicationsnapshots/Artifact%205napshot.zip/contents/status",
"rel": "self",
"data": null,
"action": "POST"
}
],
"details": null,
"status": 0,
"items": null
}

G

Profitability and Cost Management Common Helper Functions

Use the Profitability and Cost Management common helper functions as you work with Profitability and Cost Management REST APIs..

Profitability and Cost Management Common Helper Functions for Java

Common Helper Functions for Java

```
import java.io.BufferedReader;
import java.io.IOException;
import java.io.InputStream;
import java.io.InputStreamReader;
import java.io.OutputStreamWriter;
import java.io.UnsupportedEncodingException;
import java.net.HttpURLConnection;
import java.net.URI;
import java.net.URLEncoder;
import java.nio.charset.Charset;
import java.util.HashMap;
import java.util.Map;
import java.util.Set;

import javax.xml.bind.DatatypeConverter;

import org.json.JSONArray;
import org.json.JSONObject;

public class CSSRESTSamples {
    private static String userName;
    private static String password;
    private String serverUrl;
    private String apiVersion;

    public static void main(String[] args) {
        try {
CSSRESTSamples samples = new CSSRESTSamples("<DOMAINNAME.USERNAME>",
"<PASSWORD>", "<SERVICE_URL>", "v1");
            // Call sample APIs.
            // samples.addUsers("AddUser2.csv", "test123$", false);
            // samples.removeUsers("test2.csv");
            // samples.assignRole("test3.csv", "Power User");
            // samples.unassignRole("test4.csv", "Viewer");
            // samples.addUsersToGroup("test5.csv", "TestGroup1");
```

```
            // samples.removeUsersFromGroup("test6.csv", "TestGroup2");
            //
samples.generateRoleAssignmentReport("JavaSampleReport.csv");
            // samples.generateUserGroupReport("UserGroupReport.csv");
            // samples.addUserToGroups("Group.csv", "user1");
            // samples.removeUserFromGroups("groups.csv", "joe");
            // samples.addGroups("Group1.csv");
            // samples.removeGroups("DeleteGroup1.csv");
            // samples.generateInvalidLoginReport("2021-06-01",
"2021-06-10","invalidLoginReport141.csv");
            // samples.generateRoleAssignmentAuditReport("2021-06-01",
"2021-06-10","roleAssignmentaudit_14778.csv");
        } catch (Throwable x) {
            System.err.println("Error: " + x.getMessage());
        }
    }

    public CSSRESTSamples(String userName, String password, String
serverUrl, String apiVersion) throws Exception {
        this.userName = userName;
        this.password = password;
        this.serverUrl = serverUrl;
        this.apiVersion = apiVersion;
    }

    public void addUsers(String fileName, String userPassword, boolean
resetPassword) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);
            reqParams.put("userpassword", userPassword);
            reqParams.put("resetpassword", resetPassword + "");

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void removeUsers(String fileName) {
```

```
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "DELETE");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void assignRole(String fileName, String roleName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "ASSIGN_ROLE");
            reqParams.put("rolename", roleName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void unassignRole(String fileName, String roleName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/users";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));
```

```
            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "UNASSIGN_ROLE");
            reqParams.put("rolename", roleName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void addUsersToGroup(String fileName, String groupName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "ADD_USERS_TO_GROUP");
            reqParams.put("groupname", groupName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void removeUsersFromGroup(String fileName, String
groupName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
```

```
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "REMOVE_USERS_FROM_GROUP");
            reqParams.put("groupname", groupName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void addUserToGroups(String fileName, String userName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
            reqParams.put("jobtype", "ADD_USER_TO_GROUPS");
            reqParams.put("username", userName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void removeUserFromGroups(String fileName, String userName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);
```

```
            reqParams.put("jobtype", "REMOVE_USER_FROM_GROUPS");
            reqParams.put("username", userName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "PUT");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void generateRoleAssignmentReport(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/roleassignmentreport";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void generateUserGroupReport(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/usergroupreport";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("filename", fileName);
```

```
            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void addGroups(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void removeGroups(String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/groups";
            Map<String, String> reqHeaders = new HashMap<String, String>();
            reqHeaders.put("Authorization", "Basic " + DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String, String>();
            reqParams.put("filename", fileName);

            Map<String, String> restResult = CSSRESTHelper.callRestApi(new
HashMap(), url, reqHeaders, reqParams,
                    "DELETE");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
```

```
    }

    public void generateInvalidLoginReport(String fromDate, String
toDate,String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/invalidloginreport";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("from_date", fromDate);
            reqParams.put("to_date", toDate);
            reqParams.put("filename", fileName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
        } catch (Exception e) {
            e.printStackTrace();
        }
    }

    public void generateRoleAssignmentAuditReport(String fromDate,
String toDate,String fileName) {
        try {
            String url = this.serverUrl + "/interop/rest/security/" +
apiVersion + "/roleassignmentauditreport";
            Map<String, String> reqHeaders = new HashMap<String,
String>();
            reqHeaders.put("Authorization", "Basic " +
DatatypeConverter
                    .printBase64Binary((this.userName + ":" +
this.password).getBytes(Charset.defaultCharset())));

            Map<String, String> reqParams = new HashMap<String,
String>();
            reqParams.put("from_date", fromDate);
            reqParams.put("to_date", toDate);
            reqParams.put("filename", fileName);

            Map<String, String> restResult =
CSSRESTHelper.callRestApi(new HashMap(), url, reqHeaders, reqParams,
                    "POST");
            String jobStatus =
CSSRESTHelper.getCSSRESTJobCompletionStatus(restResult, reqHeaders);
            System.out.println(jobStatus);
```

```
        } catch (Exception e) {
            e.printStackTrace();
        }
    }
    private static class CSSRESTHelper {
        public static final String REST_CALL_STATUS = "REST_CALL_STATUS";
        public static final String REST_CALL_RESPONSE = "REST_CALL_RESPONSE";

        private static Map<String, String> callRestApi(Map context, String
url, Map<String, String> requestHeaders,
                Map<String, String> requestParams, String methodType) {
            HttpURLConnection urlConnection = null;
            Map<String, String> restResult = new HashMap<String, String>();
            restResult.put(REST_CALL_STATUS, "-1");
            boolean isPostMethod = "POST".equalsIgnoreCase(methodType) ||
"PUT".equalsIgnoreCase(methodType);
            try {
                URI baseUri = new URI(url);
                URI uri = null;
                String reqParams = (requestParams != null ?
buildRequestParams(context, requestParams, isPostMethod)
                        : null);
                if (isPostMethod) {
                    uri = new URI(baseUri.getScheme(),
baseUri.getAuthority(), baseUri.getPath(), null, null);
                } else {
                    uri = new URI(baseUri.getScheme(),
baseUri.getAuthority(), baseUri.getPath(), reqParams, null);
                }

                urlConnection = (HttpURLConnection)
uri.toURL().openConnection();
                urlConnection.setRequestMethod(methodType);

                if (requestHeaders != null) {
                    Set<String> requestHeaderKeys = requestHeaders.keySet();
                    for (String requestHeaderKey : requestHeaderKeys) {
                        urlConnection.setRequestProperty(requestHeaderKey,
requestHeaders.get(requestHeaderKey));
                    }
                }

                urlConnection.setUseCaches(false);
                urlConnection.setDoOutput(true);
                urlConnection.setDoInput(true);

                if (isPostMethod) {
                    OutputStreamWriter writer = new
OutputStreamWriter(urlConnection.getOutputStream(),
                            Charset.defaultCharset());
                    writer.write(reqParams);
                    writer.flush();
                }

                if (!isPostMethod) {
```

```
                    urlConnection.connect();
                }

                int status = urlConnection.getResponseCode();
                restResult.put(REST_CALL_STATUS,
String.valueOf(status));
                String response = readResponse(context,
                        (status >= 400 ?
urlConnection.getErrorStream() : urlConnection.getInputStream()));
                restResult.put(REST_CALL_RESPONSE, response);
            } catch (Exception e) {
                restResult.put(REST_CALL_RESPONSE, e.getMessage());
            } finally {
                if (urlConnection != null) {
                    urlConnection.disconnect();
                }
            }
            return restResult;
        }

        private static String buildRequestParams(Map context,
Map<String, String> requestParams, boolean isPostMethod) {
            String reqParams = null;
            try {
                StringBuilder result = new StringBuilder();
                Set<String> reqParamKeys = requestParams.keySet();
                boolean first = true;
                for (String reqParamKey : reqParamKeys) {
                    if (first)
                        first = false;
                    else
                        result.append("&");
                    String reqParamValue =
requestParams.get(reqParamKey);
                    result.append((isPostMethod ?
URLEncoder.encode(reqParamKey, "UTF-8") : reqParamKey));
                    result.append("=");
                    result.append((isPostMethod ?
URLEncoder.encode(reqParamValue, "UTF-8") : reqParamValue));
                }
                reqParams = result.toString();
            } catch (UnsupportedEncodingException e) {
                e.printStackTrace();
            }
            return reqParams;
        }

        private static String readResponse(Map context, InputStream
urlInStream) {
            BufferedReader br = null;
            String response = "";
            try {
                String line;
                br = new BufferedReader(new
InputStreamReader(urlInStream, Charset.defaultCharset()));
```

```
                while ((line = br.readLine()) != null) {
                    response += line;
                }
            } catch (Exception e) {
                response += e.getMessage();
            } finally {
                if (br != null) {
                    try {
                        br.close();
                    } catch (IOException e) {
                        e.printStackTrace();
                    }
                }
            }
            return response;
        }

        private static String getCSSRESTJobUrlFromResponse(String response) {
            String jobUrl = "";
            try {
                JSONObject jsonResponse = new JSONObject(response);
                JSONArray links = (JSONArray) jsonResponse.get("links");
                JSONObject jobStatusLink = (JSONObject) links.get(1);
                jobUrl = jobStatusLink.get("href").toString();
            } catch (Exception ex) {
                ex.printStackTrace();
            }
            return jobUrl;
        }

        private static String getCSSRESTJobStatusFromResponse(String
response) {
            String jobStatus = "";
            try {
                JSONObject jsonResponse = new JSONObject(response);
                jobStatus = jsonResponse.get("status").toString();
            } catch (Exception ex) {
                ex.printStackTrace();
            }
            return jobStatus;
        }

        private static String getCSSRESTJobCompletionStatus(Map<String,
String> restResult, Map<String, String> reqHeader) {
            String completionStatus = "";
            try {
                String restStatus =
restResult.get(CSSRESTHelper.REST_CALL_STATUS);
                if (restStatus.equalsIgnoreCase("200")) {
                    String jobUrl =
getCSSRESTJobUrlFromResponse(restResult.get(CSSRESTHelper.REST_CALL_RESPONSE)
);
                    String restJobStatus = "-1";
                    Map<String, String> jobStatusResult = null;
                    while (restJobStatus.equalsIgnoreCase("-1")) {
```

```
                        jobStatusResult =
CSSRESTHelper.callRestApi(new HashMap(), jobUrl, reqHeader, null,
"GET");
                        String jobStatusStatus =
jobStatusResult.get(CSSRESTHelper.REST_CALL_STATUS);
                        if (jobStatusStatus.equalsIgnoreCase("200")) {
                            restJobStatus =
getCSSRESTJobStatusFromResponse(

jobStatusResult.get(CSSRESTHelper.REST_CALL_RESPONSE));
                        }
                        Thread.sleep(1000);
                    }
                    completionStatus =
jobStatusResult.get(CSSRESTHelper.REST_CALL_RESPONSE);
                }
            } catch (Exception ex) {
                ex.printStackTrace();
            }
            return completionStatus;
        }
    };
}
```

Profitability and Cost Management Common Helper Functions for cURL

Common Helper Functions for cURL

```
#!/bin/sh
#set -x
export PATH=$PATH:<PATH_TO_JQ_BINARY>
SERVER_URL="<SERVICE_URL>"
USERNAME="<USERNAME>"
PASSWORD="<PASSWORD>"
API_VERSION="v1"

# To avoid SSL connection issue in the environment please add -k
option for below curl commands.
funcCallRESTAPI() {
    if [ "$1" == "GET" ] || [ "$1" == "DELETE" ]; then
        if [ "$6" != "" ]; then
            echo `curl -s -u $4:$5 -H "$3" --request $1 -G $2 -d "$6"`
        else
            echo `curl -s -u $4:$5 -H "$3" --request $1 -G $2`
        fi
    else
                if [ "$6" != "" ]; then
                        echo `curl -s -u $4:$5 -H "$3" --request $1 $2
-d "$6"`
                else
                        echo `curl -s -u $4:$5 -H "$3" --request $1 $2`
```

```
                fi
    fi
}

funcCSSRESTHelper() {
        jobOutput=$(funcCallRESTAPI "$1" "$2" "$3" "$4" "$5" "$6")
        jobUrl=`echo $jobOutput | jq '.links[1].href'`
        if [ $jobUrl != null ]; then
                jobUrl="${jobUrl%\"}"
                jobUrl="${jobUrl#\"}"
                jobStatus=-1
                while [ $jobStatus == -1 ]; do
                        jobOutput=$(funcCallRESTAPI "GET" "$jobUrl"
"$header" "$USERNAME" "$PASSWORD")
                        jobStatus=`echo $jobOutput | jq '.status'`
                done
                restStatus=`echo $jobOutput | jq '.details'`
                restStatus="${restStatus%\"}"
                restStatus="${restStatus#\"}"
                statusMessage=""
                if [ $jobStatus == 0 ]; then
                        statusMessage="$7 completed successfully."
#"$restStatus"
                else
                        statusMessage=$restStatus
                fi
                   echo "$statusMessage"
        else
                failedMessage=`echo $jobOutput | jq '.details'`
        failedMessage="${failedMessage%\"}"
                failedMessage="${failedMessage#\"}"
                echo $failedMessage
        fi
}

funcAddUsers() {
    url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
    params="filename=$1&userpassword=$2&resetpassword=$3"
    header="Content-Type: application/x-www-form-urlencoded;charset=UTF-8"
    cssRESTAPI="AddUsers"
    statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
    echo $statusMessage
}

funcRemoveUsers() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="RemoveUsers"
        statusMessage=$(funcCSSRESTHelper "DELETE" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}
```

```
funcAssignRole() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1&jobtype=ASSIGN_ROLE&rolename=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="AssignRole"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcUnassignRole() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/users"
        params="filename=$1&jobtype=UNASSIGN_ROLE&rolename=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="UnassignRole"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcAddUsersToGroup() {
    url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
    params="filename=$1&jobtype=ADD_USERS_TO_GROUP&groupname=$2"
    header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
    cssRESTAPI="AddUsersToGroup"
    statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
    echo $statusMessage
}

funcRemoveUsersFromGroup() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"

params="filename=$1&jobtype=REMOVE_USERS_FROM_GROUP&groupname=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="RemoveUsersFromGroup"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcAddUserToGroups() {
    url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
    params="filename=$1&jobtype=ADD_USER_TO_GROUPS&username=$2"
    header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
    cssRESTAPI="AddUserToGroups"
    statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
    echo $statusMessage
```

```
}

funcRemoveUserFromGroups() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1&jobtype=REMOVE_USER_FROM_GROUPS&username=$2"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="RemoveUserFromGroups"
        statusMessage=$(funcCSSRESTHelper "PUT" "$url" "$header" "$USERNAME"
"$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcGenerateRoleAssignmentReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
roleassignmentreport"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateRoleAssignmentReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcGenerateUserGroupReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/usergroupreport"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateUserGroupReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcAddGroups() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="addGroups"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcRemoveGroups() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/groups"
        params="filename=$1"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="removeGroups"
        statusMessage=$(funcCSSRESTHelper "DELETE" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
```

```
        echo $statusMessage
}

funcGenerateInvalidLoginReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
invalidloginreport"
     params="from_date=$1&to_date=$2&filename=$3"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateInvalidLoginReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

funcGenerateRoleAssignmentAuditReport() {
        url="$SERVER_URL/interop/rest/security/$API_VERSION/
roleassignmentauditreport"
      params="from_date=$1&to_date=$2&filename=$3"
        header="Content-Type: application/x-www-form-
urlencoded;charset=UTF-8"
        cssRESTAPI="generateRoleAssignmentAuditReport"
        statusMessage=$(funcCSSRESTHelper "POST" "$url" "$header"
"$USERNAME" "$PASSWORD" "$params" "$cssRESTAPI")
        echo $statusMessage
}

#funcAddUsers test1.csv password false
#funcRemoveUsers test2.csv
#funcAssignRole test3.csv "Power User"
#funcUnAssignRole test4.csv Viewer
#funcAddUsersToGroup test5.csv TestNativeGroup1
#funcRemoveUsersFromGroup test6.csv TestNativeGroup2
#funcGenerateRoleAssignmentReport RoleAssignmentReport.csv
#funcGenerateUserGroupReport UserGroupReport.csv
#funcAddUserToGroups groups.csv joe
#funcRemoveUserFromGroups groups.csv joe
#funcAddGroups CreateGroup1.csv
#funcRemoveGroups DeleteGroup1.csv
#funcGenerateInvalidLoginReport 2021-06-01 2021-06-10
invalidLoginReport.csv
#funcGenerateRoleAssignmentAuditReport 2021-06-01 2021-06-10
roleAssignmentAuditReport.csv
```

Profitability and Cost Management Common Helper Functions for Groovy

Common Helper Functions for Groovy

```
import java.nio.charset.StandardCharsets

import groovy.json.JsonSlurper
```

```
serverUrl="<SERVICE_URL>"
username="<DOMAINNAME.USERNAME>"
password="<PASSWORD>"

apiVersion = "v1";
userCredentials = username + ":" + password;
basicAuth = "Basic " +
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getBytes()
)

def getResponse(is) {
    BufferedReader br = new BufferedReader(new InputStreamReader(is));
    StringBuilder sb = new StringBuilder();
    String line;
    while ((line = br.readLine()) != null) {
        sb.append(line+"\n");
    }
    br.close();
    return sb.toString();
}

def getUrlFromResponse(scenario, response, relValue) {
    def object = new JsonSlurper().parseText(response)
    def pingUrlStr
    if (object.status == -1) {
        println "Started - " + scenario
        def links = object.links
        links.each{
            if (it.rel.equals(relValue)) {
                pingUrlStr=it.href
            }
        }
    } else {
        println "Error details: " + object.details
        System.exit(0);
    }
    return pingUrlStr
}

def getJobStatus(pingUrlString, methodType) {

    def pingUrl = new URL(pingUrlString);
    def completed = false;
    while (!completed) {
        pingResponse = executeRequest(pingUrl, methodType, null,
"application/x-www-form-urlencoded");
        status = getJobStatusFromResponse(pingResponse);
        if (status == "Processing") {
            try {
                println "Processing. Please wait..."
                Thread.sleep(5000);
            } catch (InterruptedException e) {
                completed = true
            }
```

```
        } else {
            println status
            completed = true
        }
    }
}

def getJobStatusFromResponse(response) {
    def object = new JsonSlurper().parseText(response)
    def status = object.status
    if (status == -1)
        return "Processing"
    else if (status == 0)
        return "Completed"
    else
        return object.details
}

def getJobDetailsFromResponse(response) {
    def object = new JsonSlurper().parseText(response)
    def details = object.details
    if (details != null)
        return object.details
    else
        return null
}

def executeRequest(url, requestType, payload, contentType) {
    HttpURLConnection connection = (HttpURLConnection)
url.openConnection();
    connection.setDoOutput(true);
    connection.setInstanceFollowRedirects(false);
    connection.setRequestMethod(requestType);
    connection.setRequestProperty("Content-Type", contentType);
    //           connection.setRequestProperty("charset",
StandardCharsets.UTF_8);
    connection.setRequestProperty("Authorization", basicAuth);
    connection.setUseCaches(false);

    if (payload != null) {
        OutputStreamWriter writer = new
OutputStreamWriter(connection.getOutputStream());
        writer.write(payload);
        writer.flush();
    }

    int statusCode
    try {
        statusCode = connection.responseCode;
    } catch (all) {
        println "Error connecting to the URL"
        System.exit(0);
    }

    def response
```

```
    if (statusCode == 200 || statusCode == 201) {
        if (connection.getContentType() != null && !
connection.getContentType().startsWith("application/json")) {
            println "Error occurred in server"
            System.exit(0)
        }
        InputStream is = connection.getInputStream();
        if (is != null)
            response = getResponse(is)
    } else {
        println "Error occurred while executing request"
        println "Response error code : " + statusCode
        InputStream is = connection.getErrorStream();
        if (is != null && connection.getContentType() != null &&
connection.getContentType().startsWith("application/json"))
            println getJobStatusFromResponse(getResponse(is))
        System.exit(0);
    }
    connection.disconnect();
    return response;
}

def addUsersToGroup(fileName, groupName) {

    String scenario = "Adding users in " + fileName + " to group " +
groupName;
    String params = "jobtype=ADD_USERS_TO_GROUP&filename="+ fileName
+"&groupname="+ groupName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def removeUsersFromGroup(fileName, groupName) {

    String scenario = "Removing users in " + fileName + " from group " +
groupName;
    String params = "jobtype=REMOVE_USERS_FROM_GROUP&filename="+ fileName
+"&groupname="+ groupName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
```

```
groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def addUserToGroups(fileName, userName) {

    String scenario = "Adding users in " + fileName + " to group " +
userName;
    String params = "jobtype=ADD_USER_TO_GROUPS&filename="+ fileName
+"&username="+ userName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def removeUserFromGroups(fileName, userName) {

    String scenario = "Removing users in " + fileName + " from group "
+ userName;
    String params = "jobtype=REMOVE_USER_FROM_GROUPS&filename="+
fileName +"&username="+ userName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
```

```
Status"), "GET");
    }
}

def addUsers(fileName, resetPassword, userPassword) {

    String scenario = "Creating users in " + fileName;
    String params = "jobtype=ADD_USERS&filename="+ fileName
+"&resetpassword="+ resetPassword +"&userpassword="+ userPassword;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def addUsers(fileName) {
    addUsers(fileName, null, null);
}

def deleteUsers(fileName) {

    String scenario = "Deleting users in " + fileName;
    String params = null;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
users?filename=" + fileName);
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "DELETE", null, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def assignUsersRoles(fileName, roleName) {

    String scenario = "Assigning users in " + fileName + " with role " +
roleName;
```

```
    String params = "jobtype=ASSIGN_ROLE&filename="+ fileName
+"&rolename="+ roleName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def unassignUsersRoles(fileName, roleName) {

    String scenario = "Un-assigning users in " + fileName + " with
role " + roleName;
    String params = "jobtype=UNASSIGN_ROLE&filename="+ fileName
+"&rolename="+ roleName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/users");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "PUT", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def generateRoleAssignmentReport(fileName) {

    String scenario = "Generating Role assignment report in " +
fileName;
    String params =
"jobtype=GENERATE_ROLE_ASSIGNMENT_REPORT&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/roleassignmentreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
```

```
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def generateUserGroupReport(fileName) {

    String scenario = "Generating User Group Report in " + fileName;
    String params = "jobtype=GENERATE_USER_GROUP_REPORT&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
usergroupreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def addGroups(fileName) {
    println "addgroups"
    String scenario = "Creating Groups in " + fileName;
    String params = "filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" + apiVersion + "/
groups");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

def removeGroups(fileName) {

    String scenario = "Deleting Groups in " + fileName;
```

```
    String params = null;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/groups?filename=" + fileName);
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "DELETE", null, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def generateRoleAssignmentAuditReport(from_date,to_date,fileName) {

    String scenario = "Generating Role assignment audit report in " +
fileName;
    String params =
"jobtype=GENERATE_ROLE_ASSIGNMENT_AUDIT_REPORT&from_date="+from_date+"&
to_date="+to_date+"&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/roleassignmentauditreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-
form-urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job
Status"), "GET");
    }
}

def generateInvalidLoginReport(from_date,to_date,fileName) {

    String scenario = "Generating Invalid Login report in " + fileName;
    String params =
"jobtype=GENERATE_INVALID_LOGIN_REPORT&from_date="+from_date+"&to_date=
"+to_date+"&filename="+ fileName;
    def url = null;
    def response = null;
    try {
        url = new URL(serverUrl + "/interop/rest/security/" +
apiVersion + "/invalidloginreport");
    } catch (MalformedURLException e) {
        println "Please enter a valid URL"
```

```
        System.exit(0);
    }
    response = executeRequest(url, "POST", params, "application/x-www-form-
urlencoded");
    if (response != null) {
        getJobStatus(getUrlFromResponse(scenario, response, "Job Status"),
"GET");
    }
}

//Execute commands here
//addUsersToGroup("Users.csv",
"G1");
                    //PUT
//removeUsersFromGroup("Users.csv",
"G1");
     //PUT
//addUsers("AddUsers123.csv", "false",
"newPassword");                                          //POST
//
addUsers("AddUsers456.csv");

   //POST
//
deleteUsers("RemoveUsers.csv");
                                                                  //DELETE
//assignUsersRoles("Users.csv", "Service
Administrator");                            //PUT
//assignUsersRoles("users.csv",
"viewer");                                                              //PUT
//unassignUsersRoles("Users.csv", "Drill
Through");                                                    //PUT
//
generateRoleAssignmentReport("GroovySampleReport3.csv");
           // POST
//
generateUserGroupReport("UserGroupReportGroovy.csv");
            // POST
//addUserToGroups("Group.csv",
"user1");                                                 //PUT
//removeUserFromGroups("groups.csv",
"joe");                                          //PUT
//
addGroups("CreateGroup1.csv");
 // POST
//
removeGroups("DeleteGroup1.csv");
    // DELETE
//generateInvalidLoginReport("2020-06-01", "2021-06-10",
"report12345.csv"); //POST
```

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Sample Starter Kit for Consultants - Integration with Business Intelligence Cloud Service

This topic describes a sample starter kit that can be used by infrastructure consultants to plan integration for Planning with Business Intelligence Cloud Service.

Prerequisites

- You have accounts for Business Intelligence Cloud Service, Planning, and Oracle Application Express.
- You have considerable technical and functional expertise with Business Intelligence Cloud Service, Planning, Oracle Application Express, REST, Groovy, and scripting.

These are the basic tasks for the sample starter kit for consultants:

- Export data and metadata from Planning using the Planning REST API.
- Download data and metadata to an on-premise server using the Planning REST API.
- Use the metadata to create schema/tables in Business Intelligence Cloud Service using the Business Intelligence Cloud Service REST API.
- Populate the tables in Business Intelligence Cloud Service using the data imported from Planning by using the Business Intelligence Cloud Service REST API.

> **Note:**
>
> If you are using DBaaS, the target reporting database can optionally be accessed by
>
> standard tools like SQL Developer and Toad.

> **Note:**
>
> The DataSync tool (available from OTN) can also be used to create tables and load and update data in the tables. Data uploads can be scheduled using the DataSync jobs and native scheduler. This approach will work for Database Schema Service and DBaaS used as reporting database for BICS.

These are the basic steps for the sample starter kit for consultants:

1. Install the scripting engine and deploy demo scripts.
2. Use the SQL APEX REST API client to call a client sample that calls a SQL query with a bind variable passed on the URL.

3. Use the Business Intelligence REST API client to provide methods as necessary for your use case.
4. Use the Planning REST API client to provide methods as necessary for your use case.
5. Incorporate helper functions.
6. Integrate Planning with Business Intelligence Cloud Service using a demo script.

Planning, Business Intelligence Cloud Service, and SQL Web REST services expose functions available in EPM Automate, DataSync, and for direct database SQL/PLSQL calls. The REST APIs can be scripted using any language. This appendix describes a sample starter kit to show how this can be implemented using Groovy for demonstration purposes. For information on REST APIs for Business Intelligence Cloud Service and Application Express, see:

- Business Intelligence REST APIs
- Application Express REST APIs

Installing the Scripting Engine and Deploying Demo Scripts

For reference, demo scripts are described here: Integration of Planning to Business Intelligence Cloud Service.

1. Install the Groovy engine, http://www.groovy-lang.org/install.html

   Select the binary release (https://bintray.com/artifact/download/groovy/maven/apache-groovy-binary-2.4.5.zip).

2. Create the files as shown in Integration of Planning to Business Intelligence Cloud Service, and put them in a folder structure similar to the following:

```
pbcsbics
   PBCSBICSAutomation.properties
   com
       oracle
      ceal
        <groovy files>
```

3. Open a shell:

```
cd <yourrootfolder>\pbcsbics
```

   On a single line, type:

```
<yourrootfolder>\apache-groovy-binary-2.4.5\groovy-2.4.5\bin\groovy
-classpath
<yourrootfolder>\pbcsbics
<yourrootfolder>\pbcsbics\com\oracle\ceal\PBCSBICSIntegration.groovy
```

SQL Application Express REST API client

The Application Express REST API client sample demonstrates calling an SQL query with a bind variable passed on the URL.

- Client creation using `com.oracle.ceal.ApexRestClient`

  ```
  apexClient=new ApexRestClient(apexRestUrl, proxy Host, proxy Port,cloud
  identityDomain, cloud username, cloud password,
  ignoreSSLCertificationPathErrors)
  ```

  - Apex REST URL in the format: https://server

    Example: https://<SERVER>.oraclecloud.com/apex
  - `proxy host`:
    - Leave empty if not using a proxy
    - If using a tool like Fiddler for HTTP captures, specify `localhost`.
    - If you need to go through a proxy to connect to Oracle cloud services, specify the proxy host.
  - `proxy port`:
    - Leave empty if not using a proxy
    - If using Fiddler, use 8888.
    - Otherwise, enter your proxy port.
  - `Cloud identity domain`: this is provided with your cloud login. You can also find this in the APEX URL.
  - `ignoreSSLCertificationPathErrors (true or false)`: Set this to true if connecting through a proxy like Fiddler.
- Calling an SQL Query defined in APEX / SQL Workshop / RESTful web services

  The REST web service must be created first. For more information, read this Oracle By Example: http://www.oracle.com/webfolder/technetwork/tutorials/obe/cloud/13_2/dbservice/restfulws/restfulws.html

  ```
  apexClient.launchSQLQueryUsingGETAndVariableOnUrl("<module name>/<uri>",
  "<bind variable>")
  ```

  Example:

  ```
  apexClient.launchSQLQueryUsingGETAndVariableOnUrl("bics/test", "7839")
  ```

  This example uses the following definition of the REST service in APEX:

  RESTful Service Module: bics/ URI Template: test/{ID} Method: GET Source Type: Query Format: JSON Requires Secure Access: YES Source: Select `EMPNO,ENAME,JOB,MGR,HIREDATE,SAL,COMM,DEPTNO` from EMP where `EMPNO = :ID`

  The URL call will be in the following format:

  `https://<SERVER>.oraclecloudapps.com/apex/bics/test/7839`

  The response will be in the following format:

```
Response Content-Type:application/json

{"next":{"$ref":"https://<SERVER>.oraclecloudapps.com/apex/bics/
test/7839?page=1"},"items":
[{"empno":7839,"ename":"KING","job":"PRESIDENT","hiredate":"1981-11-
17T00:00:00Z","sal":5000,"deptno":10}]}
```

- Calling a PL/SQL defined in APEX / SQL Workshop / RESTful web services

  A method is available, but all the configuration work must be done in APEX.

  ```
  apexClient.launchProcUsingGET("<module name>/<uri>")
  ```

  The definition of the REST service in APEX is for this example:

  RESTful Service Module: bics/ URI Template: plsql/ Method: GET Source Type: PL/SQL Requires Secure Access: YES Source:

```
DECLARE
        prevdeptno   number;
        deptloc      varchar2(30);
        deptname     varchar2(30);
        CURSOR getemps IS select * from emp
                where ((select job from emp where ename
= :empname)  IN ('PRESIDENT', 'MANAGER'))
                        or deptno = (select deptno from emp where
ename = :empname)
                        order by deptno, ename;
        BEGIN
            sys.htp.htmlopen;
            sys.htp.headopen;
            sys.htp.title('Departments');
            sys.htp.headclose;
            sys.htp.bodyopen;
             for emprecs in getemps
            loop
            if emprecs.deptno != prevdeptno or prevdeptno is null
then
                            select dname, loc into deptname,
deptloc
                                from dept where deptno = (select
deptno from emp where ename = emprecs.ename);
                        if prevdeptno is not null then
                               sys.htp.print('</ul>');
          end if;
                        sys.htp.print('Department ' || deptname || '
located in ' || deptloc || '<p/>');
                        sys.htp.print('<ul>');
          end if;
            sys.htp.print('<li>' || emprecs.ename || ', ' ||
emprecs.job || ', ' || emprecs.sal || '</li>');
            prevdeptno := emprecs.deptno;
            end loop;
            sys.htp.print('</ul>');
            sys.htp.bodyclose;
            sys.htp.htmlclose;
        END;
```

```
        URL call will be in the form: https://
<SERVER>.oraclecloudapps.com/apex/bics/plsql/
        Response will be in following format for this specific plsql
example
                Response Content-Type:text/html; charset=UTF-8
                <HTML>
                <HEAD>
                <TITLE>Departments</TITLE>
                </HEAD>
                <BODY>
                </ul>
                </BODY>
                    </HTML>
```

Business Intelligence REST API Client

The Business Intelligence REST API client provides the following methods:

- Client creation using `com.oracle.ceal.BicsRestClient`

  ```
  (BicsClientRestClient.groovy)bicsClient=new BicsRestClient(bics Rest Url,
  proxy Host, proxy Port,cloud  identityDomain, cloud username, cloud
  password, ignoreSSLCertificationPathErrors)
  ```

  - Business Intelligence REST URL in the format: https://servername

    Example: https://<SERVER>.oraclecloud.com
  - `proxy host`:
    * Leave empty if not using a proxy
    * If using a tool like Fiddler for HTTP captures, specify `localhost`.
    * If you need to go through a proxy to connect to Oracle cloud services, specify the proxy host.
  - `proxy port`:
    * Leave empty if not using a proxy
    * If using Fiddler, use 8888.
    * Otherwise, enter your proxy port.
  - `Cloud identity domain`: this is provided with your cloud login. You can also find this in the BI URL.
  - `ignoreSSLCertificationPathErrors (true or false)`: Set this to true if connecting through a proxy like Fiddler.
- About bics

  ```
  bicsClient.aboutBics()
  ```
- List all tables

  ```
  bicsClient.listAllTables()
  ```
- Get table info

```
bicsClient.getTableInfo(table name)
```

- Delete table

  ```
  bicsClient.deleteTable(table name)
  ```

- Create a table with X columns and a specific column name prefix

  ```
  bicsClient.createTableToLoadCSV(table name, number of columns , column
  prefix)
  ```

  Example:

  ```
  bicsClient.createTableToLoadCSV("ceal_4", 3 ,"MYCOL")
  ```

  This creates a table called `CEAL_4` with three columns named: `MYCOL1, MYCOL2, MYCOL3`

  By default the columns have the following properties:

  ```
  "dataType":"VARCHAR" // creates a VARCHAR2 column in database
          "length":300,
          "precision":0,
          "nullable":true,
         "defaultValue":null,
  ```

  These values can be modified in `BicsRestClient.groovy` in the `createTableToLoadCSV` method

- Delete data from table

  ```
  bicsClient.deleteDataFromTable(table name)
  ```

- Load data in table

  ```
  loadDataInTableUsingCSV(tableName, localCsvFilePath, localCsvFileName,
  delimiterInCsv,numberOfColumnsInCsv,numberOfLinesToSkip,columnPrefixIn
  Table,isZipped)
  ```

  Example:

  ```
  bicsClient.loadDataInTableUsingCSV("ceal_4","d:\
  \temp","export.csv",",",3,0,"MYCOL",false)
  ```

- Create a table with a specific column name

  ```
  bicsClient.createTableToLoadCSVWithHeaderNames("ceal_8", listHeaders )
  ```

- Load data in table using mappings to specific column names

  ```
  loadDataInTableUsingCSVAndHeader(tableName, localCsvFilePath,
  localCsvFileName,
  delimiterInCsv,numberOfLinesToSkip,listHeaders,isZipped)
  ```

  Example:

  ```
  bicsClient.loadDataInTableUsingCSVAndHeader("ceal_8","d:\
  \temp",fileNameInZip,",",1,listHeaders,false)
  ```

Planning REST API Client

The Planning REST API client provides the following methods:

- Client creation using `com.oracle.ceal.PbcsRestClient (PbcsClientRestClient.groovy)`

  ```
  PbcsRestClient pbcsClient=new
  PbcsRestClient(pbcsParams.planningRestUrl,pbcsParams.interopRestUrl,pbcsPa
  rams.proxyHost,pbcsParams.proxyPort,pbcsParams.identityDomain,pbcsParams.u
  sername, pbcsParams.password, pbcsParams.ignoreSSLCertificationPathErrors)
  ```

- List all files

  ```
  pbcsClient.listFiles()
  ```

- Delete a file

  ```
  pbcsClient.deleteFile(fileName)
  ```

- Export data

  ```
  response=pbcsClient.exportData(appName, Job name for export, export filename
  on server)
  ```

- Get job status

  ```
  pbcsClient.getJobStatus(appName,jobId)
  ```

- Download file

  ```
  pbcsClient.downloadFile(server file name, local destination folder)
  ```

- Export metadata

  ```
  pbcsClient.exportMetaData(appName,job name for metadata export, Export
  filename on server)
  ```

- Execute LCM Export

  ```
  pbcsClient.executeLCMExport(snapshot name)
  ```

- Run business rule

  ```
  pbcsClient.runBusinessRule(appname,business rule,runtime prompts)
  ```

  Example:

  ```
  pbcsClient.runBusinessRule("Vision","AggOliv","{Period:Q1,Entity:USA}")
  ```

- Cube refresh

  ```
  pbcsClient.cubeRefresh(appname,jobname)
  ```

  Example:

  ```
  pbcsClient.cubeRefresh("Vision","RefreshOliv")
  ```

- Run plantype map

  ```
  pbcsClient.runPlanTypeMap(appname, jobname, cleardata true/false)
  ```

  Example:

  ```
  pbcsClient.cubeRefresh("Vision","RefreshOliv")pbcsClient.runPlanTypeMap("Vis
  ion","MapOliv","false")
  ```

- Run Ruleset

  `pbcsClient.runRuleSet(appname, ruleset)`

- Import data

  `pbcsClient.importData(appname, jobname, export filename)`

  `Last parameter (export filename)` defaults to `jobname` if no server import filename is specified

- Import metadata

  `pbcsClient.importMetaData(appname, jobname, export metadata filename)`

  `Last parameter` defaults to `jobname` if no server import filename is specified

  Example:

  ```
  pbcsClient.importMetaData("Vision","ImportMetaOliv","ExportMetadataOli
  v.zip")
  ```

- Execute LCM import

  `pbcsClient.executeLCMImport(snapshot name)`

- Upload file

  `pbcsClient.uploadFile(Local folder containing file to upload to server,file to upload)`

  Example:

  ```
  //local folder, and filename as parameters

  pbcsClient.uploadFile("d:\\temp","ExportOliv.zip")
  ```

Helper Functions

- The properties file containing connection parameters can also be accessed using this class:

  `com.oracle.ceal.BICSAutomationParameters` or

  `com.oracle.ceal.PBCSAutomationParameters` or

  `com.oracle.ceal.APEXAutomationParameters`

  The Properties file must contain for BICS:

  ```
  proxyHost=
  proxyPort=
  ignoreSSLCertificationPathErrors=true or false
  bicsRestUrl=https://biserverurl
  bicsIdentityDomain=
  bicsUsername=
  bicsPassword=

  // this loads a file named PBCSBICSAutomation.properties
  PbcsRestClient pbcsClient

  PBCSAutomationParameters pbcsParams=new
  PBCSAutomationParameters('PBCSBICSAutomation.properties')
  ```

```
pbcsClient=new
PbcsRestClient(pbcsParams.planningRestUrl,pbcsParams.interopRestUrl,pbcsPa
rams.proxyHost,pbcsParams.proxyPort,pbcsParams.identityDomain,pbcsParams.u
sername, pbcsParams.password, pbcsParams.ignoreSSLCertificationPathErrors)
```

Properties file must contain for Planning:

```
pbcsPlanningRestUrl=https://<SERVER>/rest/11.1.2.3.600
pbcsInteropRestUrl=https://<SERVER>/interop/rest/11.1.2.3.600
pbcsIdentityDomain=
pbcsUsername=
pbcsPassword=
proxyHost=
 proxyPort=
ignoreSSLCertificationPathErrors=true or false

// this loads a file named PBCSBICSAutomation.properties
ApexRestClient apexClient

APEXAutomationParameters apexParams=new
APEXAutomationParameters('PBCSBICSAutomation.properties')

apexClient=new
ApexRestClient(apexParams.apexRestUrl,apexParams.proxyHost,apexParams.prox
yPort,apexParams.identityDomain,apexParams.username, apexParams.password,
apexParams.ignoreSSLCertificationPathErrors)
```

The properties file must contain for Planning:

```
apexRestUrl=https://apexserver/apex
apexIdentityDomain=
apexUsername=
apexPassword=
proxyHost=
proxyPort=
ignoreSSLCertificationPathErrors=true or false
```

- The Planning REST client also contains helper functions for dealing with CSV files:
  - Finding the number of columns in a .csv file

    Example:

    ```
    nbColsInCsv=pbcsClient.findNbOfColsInCSV("d:\\temp\\", "export.csv", ",")
    ```

  - Finding header names in a .csv file (first line):

    ```
    listHeaders=pbcsClient.getHeadersInCSVAsList(folder containing csv file,
    csv filename, delimiter)
    ```

    Example:

    ```
    listHeaders=pbcsClient.getHeadersInCSVAsList("d:\\temp\\", fileName, ",")
    ```

- The Planning REST client also contains helpers functions for dealing with asynchronous calls:

```
Class WaitForCode
                  Method retry(sleep time, nb of retries) { code to
run }
```

Example:

```
// Looping to get jobId status while it s being processed on server
    // In this example waiting 6 secs each time, and trying 100
times to get a valid status (not processing)
    WaitForCode.retry(6000,100){
    // second parameter is jobid (is obtained from json response
from server)
        def responseJobStatus
        responseJobStatus=pbcsClient.getJobStatus("Vision",jobId)
if (responseJobStatus.contains("Processing")) throw new
Exception("Job not finished")

}
```

- The Business Intelligence Cloud Service REST client also contains helpers functions for trimming lists:

```
def truncateList(listName, truncateLength)
```

Example to truncate headers for columns to 30 characters:

```
def listHeaders
listHeaders=pbcsClient.getHeadersInCSVAsList("d:\\temp\\",
fileNameInZip, ",")
                listHeaders=bicsClient.truncateList(listHeaders, 30)
```

Integration of Planning to Business Intelligence Cloud Service

The demo scripts in the following topics show Groovy examples of integration for Planning and Business Intelligence Cloud Service.
Review these topics to see Groovy examples.

Groovy Sample – PBCSBICSIntegration.groovy

```
package com.oracle.ceal

class PBCSBICSIntegration {
    static main(args) {
        def pbcsExportfiles

        PbcsRestClient pbcsClient
        BicsRestClient bicsClient
        ApexRestClient apexClient
```

```
        PBCSAutomationParameters pbcsParams=new
PBCSAutomationParameters('PBCSBICSAutomation.properties')
        if (pbcsParams.isConfigValid() == true) {
            pbcsClient=new
PbcsRestClient(pbcsParams.planningRestUrl,pbcsParams.interopRestUrl,pbcsParam
s.proxyHost,pbcsParams.proxyPort,pbcsParams.identityDomain,pbcsParams.usernam
e, pbcsParams.password, pbcsParams.ignoreSSLCertificationPathErrors)

            pbcsClient.listFiles()

            pbcsClient.deleteFile("ExportOliv.zip")
            pbcsClient.deleteFile("ExportMetadataOliv.zip")

            def response
            //last parameter is server filename for export. If not set, this
defaults to jobname as filename

response=pbcsClient.exportData("Vision","JobOliv","ExportOliv.zip")
            String jobId = "";
            jobId=pbcsClient.getJobIdFromJSONResponse(response)
            if (jobId!="") println "Export running with jobid:"+jobId

            // Looping to get jobId status while it s being processed on
server
            // In this example waiting 6 secs each time, and trying 100
times to get a valid status (not processing)
            WaitForCode.retry(6000,100){
                // second parameter is jobid (is obtained from json response
from server)
                def responseJobStatus
                responseJobStatus=pbcsClient.getJobStatus("Vision",jobId)
                if (responseJobStatus.contains("Processing")) throw new
Exception("Job not finished"
            }

            //download server file name to local folder
            pbcsClient.downloadFile("ExportOliv.zip","d:\\temp")

            //last parameter is server filename for export. If not set, this
defaults to jobname as filename

pbcsClient.exportMetaData("Vision","JobOlivMeta","ExportMetadataOliv.zip")

            pbcsClient.downloadFile("ExportMetadataOliv.zip","d:\\temp")

            pbcsExportfiles=pbcsClient.unZip("d:\\temp\\ExportOliv.zip","d:\
\temp\\")
            pbcsExportfiles.each { fileNameInZip ->
                println "-->"+fileNameInZip
                println "Nb of cols in
csv:"+pbcsClient.findNbOfColsInCSV("d:\\temp\\", fileNameInZip, ",")
                def headers
                headers=pbcsClient.getHeadersInCSVAsList("d:\\temp\\",
fileNameInZip, ",")
```

```
                headers.each { header ->
                    println "header --"+header+"--"
                }
                println "<--"
            }

        } else {
            println "Configuration for PBCS is invalid. Please check
PBCSBICSAutomation.properties"
        }

        BICSAutomationParameters bicsParams=new
BICSAutomationParameters('PBCSBICSAutomation.properties')
        if (bicsParams.isConfigValid() == true) {

            // load to bics

            bicsClient=new
BicsRestClient(bicsParams.bicsRestUrl,bicsParams.proxyHost,bicsParams.p
roxyPort,bicsParams.identityDomain,bicsParams.username,
bicsParams.password, bicsParams.ignoreSSLCertificationPathErrors)
            bicsClient.aboutBics()
            bicsClient.listAllTables()
            bicsClient.getTableInfo("ceal_4")
            bicsClient.deleteTable("ceal_4")
            // this creates a table with x columns MYCOL1 MYCOL2 MYCOL3
            bicsClient.createTableToLoadCSV("ceal_4", 3 ,"MYCOL")
            bicsClient.deleteDataFromTable("ceal_4")
            //loadDataInTableUsingCSV(tableName, localCsvFilePath,
localCsvFileName,
delimiterInCsv,numberOfColumnsInCsv,numberOfLinesToSkip,columnPrefixInT
able,isZipped)
            bicsClient.loadDataInTableUsingCSV("ceal_4", "d:\
\temp","export.csv",",",3,0,"MYCOL",false)

            println "**Uploading each file from zip**"
            pbcsExportfiles.each { fileNameInZip ->
                println "-->"+fileNameInZip
                def nbColsInCsv
                nbColsInCsv=pbcsClient.findNbOfColsInCSV("d:\\temp\\",
fileNameInZip, ",")
                println "Nb of cols in csv:"+nbColsInCsv

                def listHeaders
                listHeaders=pbcsClient.getHeadersInCSVAsList("d:\\temp\
\", fileNameInZip, ",")
                listHeaders=bicsClient.truncateList(listHeaders, 30)
                bicsClient.deleteTable("ceal_8")


bicsClient.createTableToLoadCSVWithHeaderNames("ceal_8", listHeaders )
                //loadDataInTableUsingCSVAndHeader(tableName,
localCsvFilePath, localCsvFileName,
delimiterInCsv,numberOfLinesToSkip,listHeaders,isZipped)
                bicsClient.loadDataInTableUsingCSVAndHeader("ceal_8",
```

```
"d:\\temp",fileNameInZip,",",1,listHeaders,false)
                println "<--"
            }
            println "****"

        }  else {
            println "Configuration for BICS is invalid. Please check
PBCSBICSAutomation.properties"
        }


        APEXAutomationParameters apexParams=new
APEXAutomationParameters('PBCSBICSAutomation.properties')
        if (apexParams.isConfigValid() == true) {

            // load to bics

            apexClient=new
ApexRestClient(apexParams.apexRestUrl,apexParams.proxyHost,apexParams.proxyPo
rt,apexParams.identityDomain,apexParams.username, apexParams.password,
apexParams.ignoreSSLCertificationPathErrors)
            // see ApexRestClient.groovy method def
launchProcUsingGETAndParameterOnUrl(apexUri, parameter) for info on the rest
configuration on server
            apexClient.launchSQLQueryUsingGETAndVariableOnUrl("bics/test",
"7839")
            apexClient.launchProcUsingGET("bics/plsql/")
        }  else {
            println "Configuration for Apex is invalid. Please check
PBCSBICSAutomation.properties"
        }
    }
}
```

With `PBCSBICSAutomation.properties` like the following:

```
pbcsPlanningRestUrl=https://<SERVER>/HyperionPlanning/rest/11.1.2.3.600
pbcsInteropRestUrl=https://<SERVER>/interop/rest/11.1.2.3.600
pbcsIdentityDomain=
pbcsUsername=
pbcsPassword=
proxyHost=
proxyPort=
ignoreSSLCertificationPathErrors=false
bicsRestUrl=https://bicsserver
bicsIdentityDomain=
bicsUsername=
bicsPassword=
apexRestUrl=https://dbserver/apex
apexIdentityDomain=
apexUsername=
apexPassword=
```

Groovy Sample – PbcsRestClient.groovy

```
package com.oracle.ceal

import javax.net.ssl.HostnameVerifier
import javax.net.ssl.HttpsURLConnection
import javax.net.ssl.SSLContext
import javax.net.ssl.SSLSession
import javax.net.ssl.TrustManager
import javax.net.ssl.X509TrustManager

import java.net.HttpURLConnection

import java.util.regex.Pattern
import java.util.regex.Matcher
import java.util.zip.ZipEntry
import java.util.zip.ZipFile

class PbcsRestClient {
    private HttpURLConnection connection
    private def planningUrl
    private def interopUrl
    private def proxyHost
    private def proxyPort
    private def user
    private def pwd
    private def domain
    private def ignoreSSLCertsErrors

    public PbcsRestClient(planningServerUrl,
interopServerUrl,httpProxyHost, httpProxyPort,
identityDomain,username, password, ignoreSSLCertificationPathErrors) {
        planningUrl=planningServerUrl
        interopUrl=interopServerUrl
        proxyHost=httpProxyHost
        proxyPort=httpProxyPort
        domain=identityDomain
        user=username
        pwd=password
        ignoreSSLCertsErrors=ignoreSSLCertificationPathErrors

    }

    def setProxyParams() {
        Properties systemProperties = System.getProperties()
        systemProperties.setProperty("http.proxyHost",proxyHost)
        systemProperties.setProperty("http.proxyPort",proxyPort)
        systemProperties.setProperty("https.proxyHost",proxyHost)
        systemProperties.setProperty("https.proxyPort",proxyPort)

    }

    def setSSLParams() {
```

```
        if (ignoreSSLCertsErrors !=null &&
ignoreSSLCertsErrors.toUpperCase()=="TRUE") {
            println "Ignoring SSL certification path errors"
            // Disable SSL cert validation

            def hostnameVerifier = [
                verify: { hostname, session -> true }
            ]
            def trustManager = [
                    checkServerTrusted: { chain, authType -> },
                    checkClientTrusted: { chain, authType -> },
                    getAcceptedIssuers: { null }
            ]

            HttpsURLConnection.setDefaultHostnameVerifier(hostnameVerifier
as HostnameVerifier)

HttpsURLConnection.setDefaultSSLSocketFactory(context.getSocketFactory())

            SSLContext context = SSLContext.getInstance("SSL")
            context.init(null, [trustManager as X509TrustManager] as
TrustManager[], null)

        }
    }

    def openConnection(restUrl,method,localFileNameWithPathForStorage) {
        println "Opening connection to $restUrl with method:$method"
        int statusCode

        setProxyParams()
        setSSLParams()

        URL newUrl
        newUrl=new URL(restUrl)

        connection = (HttpURLConnection) newUrl.openConnection()

        connection.setDoOutput(true)
        connection.setDoInput(true)
        connection.setUseCaches(false)
        if (method=="")
            connection.setRequestMethod("GET")
        else
            connection.setRequestMethod(method)

        connection.setRequestProperty("Content-Type","application/x-www-form-
urlencoded")

        String userCredentials = domain +"."+user + ":" + pwd
        String basicAuth = "Basic " +
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getBytes()
)
        connection.setRequestProperty("Authorization", basicAuth)
```

```
        String response=""
        try {
            statusCode = connection.responseCode
            println "Connection status code: $statusCode "
            if (statusCode==401) {
                println "Not authorized"
            }
            if (statusCode==200) {
                println "Authentication succeeded"
                println "Server response:"
                println "-----"

response=displayServerResponse(connection,localFileNameWithPathForStora
ge)
                println "-----"
            }
            if (statusCode==400) {
                println "Bad request"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection,"")
                println "-----"
            }
        } catch (Exception e) {
            println "Error connecting to the URL"
            println e.getMessage()
        } finally {
            if (connection != null) {
                connection.disconnect();
            }
        }

        return response
    }

    def
displayServerResponse(connection,localFileNameWithPathForStorage) {
        InputStream is;
        if (connection.getResponseCode()==200) {
            is=connection.getInputStream();
        } else {
            is=connection.getErrorStream();
        }
        println "Response Content-Type:"+connection.getContentType()
        if (connection.getContentType().contains("application/json")) {
            BufferedReader br = new BufferedReader(new
InputStreamReader(is));
            StringBuilder sb = new StringBuilder();
            String line;
            while ((line = br.readLine()) != null) {
                sb.append(line+"\n");
            }
            br.close();
            println sb
            return sb.toString()
```

```
    } else {
    if (connection.getResponseCode()==200) {
    //storing content
        final int BUFFER_SIZE = 5 * 1024 * 1024;
        def fileExt = connection.getHeaderField("fileExtension");
        println "Downloading file with fileExtension header:"+fileExt
        if (fileExt!=null) {
            def saveFilePath = localFileNameWithPathForStorage;
            File f = new File(saveFilePath);
            is = connection.getInputStream();
            FileOutputStream outputStream = new FileOutputStream(f);
            int bytesRead = -1;
            byte[] buffer = new byte[BUFFER_SIZE];
            while ((bytesRead = is.read(buffer)) != -1) {
                outputStream.write(buffer, 0, bytesRead);
            }
            println "Downloaded file to $localFileNameWithPathForStorage"
            return localFileNameWithPathForStorage
        } else {
            println "Could not find fileExtension header"

        }
    }
    }

    return ""
}

def listFiles() {
    println "**Listing files**"
    def restUrl=interopUrl+"/applicationsnapshots"
    def response

    response=openConnection(restUrl,"GET","")
    println "****"
}

def deleteFile(serverFileName) {
    println "**deleting file**"
    def restUrl=interopUrl+"/applicationsnapshots/"+serverFileName
    def response

    response=openConnection(restUrl,"DELETE","")
    println "****"
}

def getJobStatus(appName,jobId) {
    println "**get Job status**"
    def restUrl=planningUrl+"/applications/"+appName+"/jobs/" + jobId

    def response
    response=openConnection(restUrl,"GET","")
    println "****"
    return response
}
```

```
    def exportData(appName,jobName, exportServerFileName) {
        println "**Exporting data**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=EXPORT_DATA"
        if (exportServerFileName!="") {
            def exportFileJSON="{exportFileName:$exportServerFileName}"
            restUrl=restUrl+"&parameters=" + exportFileJSON
        }

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
        return response
    }

    def getJobIdFromJSONResponse(response) {
        def jobId=""
        try {
            Pattern regex = Pattern.compile("\"jobId\":\\d+");
            Matcher matcher = regex.matcher(response);
            while (matcher.find()) {
                jobId = matcher.group(0).replace("\"jobId\":","");
            }

        } catch (Exception e) {
            println "No jobId found in server response"
        }
        return jobId
    }

    def downloadFile(serverFileName,localFolderForStorage) {
        println "**Downloading file**"
        def restUrl=interopUrl+"/
applicationsnapshots/"+serverFileName+ "/contents"
        def response

response=openConnection(restUrl,"GET",localFolderForStorage+"/"+serverF
ileName)
        println "****"
    }

    def exportMetaData(appName,jobName, exportServerFileName) {
        println "**Exporting metadata**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=EXPORT_METADATA"
        if (exportServerFileName!="") {
            def
exportFileJSON="{exportZipFileName:$exportServerFileName}"
            restUrl=restUrl+"&parameters=" + exportFileJSON
        }

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
```

```
    }

    def executeLCMExport(snapshotName) {
        println "**Exporting snapshot**"
        def typeExport="{type:export}"
        def restUrl=interopUrl+"/applicationsnapshots/"+snapshotName+ "/
migration?q="+typeExport
        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def executeLCMImport(snapshotName) {
        println "**Importing snapshot**"
        def typeImport="{type:import}"
        def restUrl=interopUrl+"/applicationsnapshots/"+snapshotName+ "/
migration?q="+typeImport
        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def runBusinessRule(appName,jobName, JSONRuntimePrompt) {
        println "**Running business rule**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?jobName=" +
jobName + "&jobType=RULES"
        if (JSONRuntimePrompt!="") {
            // Example for JSONRuntimePrompt {Period:Q1,Entity:USA}
            restUrl=restUrl+"&parameters=" + JSONRuntimePrompt
        }

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def runRuleSet(appName,jobName) {
        println "**Running rule set**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?jobName=" +
jobName + "&jobType=RULESET"
        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }


    def cubeRefresh(appName,jobName) {
        println "**Refreshing cube**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?jobName=" +
jobName + "&jobType=CUBE_REFRESH"

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }
```

```
    def runPlanTypeMap(appName,jobName, clearData) {
        println "**Running map (job of type plan_type_map)**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=PLAN_TYPE_MAP"
        if (clearData!=null && clearData.toUpperCase()=="FALSE") {
            restUrl=restUrl+"&parameters={clearData:false}"
        } else {
            println "Clear data is set to true (default)"
        }
        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def importData(appName,jobName, importFileName) {
        println "**Importing data**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=IMPORT_DATA"
        if (importFileName!="") {
            def exportFileJSON="{importFileName:$importFileName}"
            restUrl=restUrl+"&parameters=" + exportFileJSON
        }

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def importMetaData(appName,jobName, importZipFileName) {
        println "**Importing metadata**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=IMPORT_METADATA"
        if (importZipFileName!="") {
            def exportFileJSON="{importZipFileName:$importZipFileName}"
            restUrl=restUrl+"&parameters=" + exportFileJSON
        }

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def uploadFile(localPath,fileName) {
        println "**Uploading file**"
        def restUrl=interopUrl+"/applicationsnapshots/"+fileName

        final int DEFAULT_CHUNK_SIZE = 50 * 1024 * 1024;
        int packetNo = 1;
        boolean status = true;
        byte[] lastChunk = null;
        File f = new File(localPath+"/"+fileName);
        InputStream fis = null;
        long totalFileSize = f.length();
        boolean isLast = false;
```

```
        Boolean isFirst = true;
        boolean firstRetry = true;
        int lastPacketNo = (int) (Math.ceil(totalFileSize/ (double)
DEFAULT_CHUNK_SIZE));
        long totalbytesRead = 0;
        try {
            fis = new BufferedInputStream(new
FileInputStream(localPath+"/"+fileName));
            while (totalbytesRead < totalFileSize && status) {
                int nextChunkSize = (int) Math.min(DEFAULT_CHUNK_SIZE,
totalFileSize - totalbytesRead);
                if (lastChunk == null) {
                    lastChunk = new byte[nextChunkSize];
                    int bytesRead = fis.read(lastChunk);
                    totalbytesRead += bytesRead;
                    if (packetNo == lastPacketNo) {
                        isLast = true;
                    }
                    status = sendRequestToRestForUpload(restUrl,isFirst,
isLast,lastChunk);
                    isFirst=false;
                    if (status) {
                        println "\r" + ((100 * totalbytesRead)/
totalFileSize) + "% completed";
                    } else {
                break;
                }
                    packetNo = packetNo + 1;
                    lastChunk = null;
            }
            }
        } catch (Exception e) {
            println "Exception occurred while uploading file";
            println e.getMessage()
        } finally {
            if (null != fis) {
            }
        }
        println "****"
    }

    def sendRequestToRestForUpload(restUrl,isFirst, isLast,lastChunk) {

        def url=restUrl+"/contents?
q={isLast:$isLast,chunkSize:"+lastChunk.length+",isFirst:$isLast}"
        println "Opening connection for upload to $url"
        int statusCode

        setProxyParams()
        setSSLParams()

        URL newUrl
        newUrl=new URL(url)

        connection = (HttpURLConnection) newUrl.openConnection()
```

```
        connection.setDoOutput(true)
        connection.setDoInput(true)
        connection.setUseCaches(false)
        connection.setRequestMethod("POST")

        connection.setRequestProperty("Content-Type","application/
octet-stream")

        String userCredentials = domain +"."+user + ":" + pwd
        String basicAuth = "Basic " +
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getB
ytes())
        connection.setRequestProperty("Authorization", basicAuth)
        DataOutputStream wr = new
DataOutputStream(connection.getOutputStream());
        wr.write(lastChunk);
        wr.flush();

        boolean status = false
        int execStatus
        try {
            execStatus = connection.getResponseCode();
            InputStream is = connection.getInputStream();
            BufferedReader br = new BufferedReader(new
InputStreamReader(is));
            StringBuilder sb = new StringBuilder();
            String line;
            while ((line = br.readLine()) != null) {
                sb.append(line+"\n");
            }
            br.close();
            String stat = sb.toString();
            if (null == stat || stat.isEmpty()) {
                return status;
            } else {
                if (200 == execStatus) {
                    println stat
                }
            }

        } catch (Exception e) {
            println "Exception occurred while uploading file";
            println e.getMessage()
        } finally {
            if (connection != null) {
                connection.disconnect();
            }
        }
    }

    // Helper functions

     def unZip(fileName, destinationFolder) {
        // code from http://www.oracle.com/technetwork/articles/java/
```

```
compress-1565076.html
         println ("**Unzipping "+fileName+"**")
         def fileList=[]
        int BUFFER = 2048;
        try {
            BufferedOutputStream dest = null;
            BufferedInputStream is = null;
            ZipEntry entry;
            ZipFile zipfile = new ZipFile(fileName);
            Enumeration e = zipfile.entries();
            while(e.hasMoreElements()) {
               entry = (ZipEntry) e.nextElement();
               //println("Extracting: " +entry);
               is = new BufferedInputStream(zipfile.getInputStream(entry));
               int count;
               byte[] data;
               data = new byte[BUFFER];
               FileOutputStream fos = new
FileOutputStream(destinationFolder+"/"+entry.getName());
               fileList.push(entry.getName())
               dest = new BufferedOutputStream(fos, BUFFER);
               while ((count = is.read(data, 0, BUFFER)) != -1) {
                  dest.write(data, 0, count);
               }
               dest.flush();
               dest.close();
               is.close();
            }
         } catch (FileNotFoundException fnfe) {
             println "Make sure there is not folder in the zip . Zip not
processed"
             //fnfe.printStackTrace();
         } catch(Exception e) {
             println "An error occurred while unzipping."
             println e.getMessage()

         }
         return fileList
         println "****"
    }

     def findNbOfColsInCSV(filePath, fileName, delimiter) {
        File csvFile=new File (filePath+"/"+fileName);
        Scanner scanner = new Scanner(csvFile);
        scanner.useDelimiter(delimiter);


        def nbCols
        nbCols=0
        if (scanner.hasNextLine()) {
            String[] vals = scanner.nextLine().split(delimiter);
            nbCols=vals.size()
        }
        scanner.close();
```

```
        return nbCols
        }


    def getHeadersInCSVAsList(filePath, fileName, delimiter) {
        String[] headers =[]

        BufferedReader br = new BufferedReader(new
FileReader(filePath+"/"+fileName));
        String firstLine = br .readLine();
        println "First line is : " + firstLine
        println "Removing all non ascii chars from line"
        firstLine = firstLine.replaceAll("[^ -~]", "");
        firstLine = firstLine.replaceAll(" ", "");
       // firstLine = firstLine.replaceAll("\"", "");
        headers = firstLine.split(delimiter);

        def headersList = headers as List
        headersList = headersList.collect { it.trim() }

        return headersList
        }

}

class WaitForCode {

static retry( sleepTime, nbOfRetries, Closure logicToRun){
  Throwable catched = null
  for(int i=0; i<nbOfRetries; i++){
      try {
          return logicToRun.call()
      } catch(Throwable t){
          catched = t
          println ("Retrying...")
          Thread.sleep(sleepTime)
      }
  }
  println ("Retry count limit exceeded. Stopping check.")
  throw catched
}
}
```

Groovy Sample – PbcsRestClient.groovy

```
package com.oracle.ceal

import javax.net.ssl.HostnameVerifier
import javax.net.ssl.HttpsURLConnection
import javax.net.ssl.SSLContext
import javax.net.ssl.SSLSession
import javax.net.ssl.TrustManager
import javax.net.ssl.X509TrustManager
```

```
import java.net.HttpURLConnection

import java.util.regex.Pattern
import java.util.regex.Matcher
import java.util.zip.ZipEntry
import java.util.zip.ZipFile

class PbcsRestClient {
    private HttpURLConnection connection
    private def planningUrl
    private def interopUrl
    private def proxyHost
    private def proxyPort
    private def user
    private def pwd
    private def domain
    private def ignoreSSLCertsErrors

    public PbcsRestClient(planningServerUrl, interopServerUrl,httpProxyHost,
httpProxyPort, identityDomain,username, password,
ignoreSSLCertificationPathErrors) {
        planningUrl=planningServerUrl
        interopUrl=interopServerUrl
        proxyHost=httpProxyHost
        proxyPort=httpProxyPort
        domain=identityDomain
        user=username
        pwd=password
        ignoreSSLCertsErrors=ignoreSSLCertificationPathErrors

    }

    def setProxyParams() {
        Properties systemProperties = System.getProperties()
        systemProperties.setProperty("http.proxyHost",proxyHost)
        systemProperties.setProperty("http.proxyPort",proxyPort)
        systemProperties.setProperty("https.proxyHost",proxyHost)
        systemProperties.setProperty("https.proxyPort",proxyPort)

    }

    def setSSLParams() {
        if (ignoreSSLCertsErrors !=null &&
ignoreSSLCertsErrors.toUpperCase()=="TRUE") {
            println "Ignoring SSL certification path errors"
            // Disable SSL cert validation

            def hostnameVerifier = [
                verify: { hostname, session -> true }
            ]
            def trustManager = [
                    checkServerTrusted: { chain, authType -> },
                    checkClientTrusted: { chain, authType -> },
                    getAcceptedIssuers: { null }
            ]
```

```
HttpsURLConnection.setDefaultHostnameVerifier(hostnameVerifier as
HostnameVerifier)

HttpsURLConnection.setDefaultSSLSocketFactory(context.getSocketFactory(
))

            SSLContext context = SSLContext.getInstance("SSL")
            context.init(null, [trustManager as X509TrustManager] as
TrustManager[], null)

        }
    }

    def openConnection(restUrl,method,localFileNameWithPathForStorage)
{
        println "Opening connection to $restUrl with method:$method"
        int statusCode

        setProxyParams()
        setSSLParams()

        URL newUrl
        newUrl=new URL(restUrl)

        connection = (HttpURLConnection) newUrl.openConnection()

        connection.setDoOutput(true)
        connection.setDoInput(true)
        connection.setUseCaches(false)
        if (method=="")
            connection.setRequestMethod("GET")
        else
            connection.setRequestMethod(method)

        connection.setRequestProperty("Content-Type","application/x-
www-form-urlencoded")

        String userCredentials = domain +"."+user + ":" + pwd
        String basicAuth = "Basic " +
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getB
ytes())
        connection.setRequestProperty("Authorization", basicAuth)

        String response=""
        try {
            statusCode = connection.responseCode
            println "Connection status code: $statusCode "
            if (statusCode==401) {
                println "Not authorized"
            }
            if (statusCode==200) {
                println "Authentication succeeded"
                println "Server response:"
```

```
                println "-----"

response=displayServerResponse(connection,localFileNameWithPathForStorage)
                println "-----"
            }
            if (statusCode==400) {
                println "Bad request"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection,"")
                println "-----"
            }
        } catch (Exception e) {
            println "Error connecting to the URL"
            println e.getMessage()
        } finally {
            if (connection != null) {
                connection.disconnect();
            }
        }

        return response
    }

    def displayServerResponse(connection,localFileNameWithPathForStorage) {
        InputStream is;
        if (connection.getResponseCode()==200) {
            is=connection.getInputStream();
        } else {
            is=connection.getErrorStream();
        }
        println "Response Content-Type:"+connection.getContentType()
        if (connection.getContentType().contains("application/json")) {
            BufferedReader br = new BufferedReader(new
InputStreamReader(is));
            StringBuilder sb = new StringBuilder();
            String line;
            while ((line = br.readLine()) != null) {
                sb.append(line+"\n");
            }
            br.close();
            println sb
            return sb.toString()
        } else {
        if (connection.getResponseCode()==200) {
        //storing content
            final int BUFFER_SIZE = 5 * 1024 * 1024;
            def fileExt = connection.getHeaderField("fileExtension");
            println "Downloading file with fileExtension header:"+fileExt
            if (fileExt!=null) {
                def saveFilePath = localFileNameWithPathForStorage;
                File f = new File(saveFilePath);
                is = connection.getInputStream();
                FileOutputStream outputStream = new FileOutputStream(f);
                int bytesRead = -1;
```

```
                byte[] buffer = new byte[BUFFER_SIZE];
                while ((bytesRead = is.read(buffer)) != -1) {
                    outputStream.write(buffer, 0, bytesRead);
                }
                println "Downloaded file
to $localFileNameWithPathForStorage"
                return localFileNameWithPathForStorage
            } else {
                println "Could not find fileExtension header"

            }
        }
        }

        return ""
    }

    def listFiles() {
        println "**Listing files**"
        def restUrl=interopUrl+"/applicationsnapshots"
        def response

        response=openConnection(restUrl,"GET","")
        println "****"
    }

    def deleteFile(serverFileName) {
        println "**deleting file**"
        def restUrl=interopUrl+"/applicationsnapshots/"+serverFileName
        def response

        response=openConnection(restUrl,"DELETE","")
        println "****"
    }

    def getJobStatus(appName,jobId) {
        println "**get Job status**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs/" +
jobId

        def response
        response=openConnection(restUrl,"GET","")
        println "****"
        return response
    }

    def exportData(appName,jobName, exportServerFileName) {
        println "**Exporting data**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=EXPORT_DATA"
        if (exportServerFileName!="") {
            def exportFileJSON="{exportFileName:$exportServerFileName}"
            restUrl=restUrl+"&parameters=" + exportFileJSON
        }
```

```
        def response
        response=openConnection(restUrl,"POST","")
        println "****"
        return response
    }

    def getJobIdFromJSONResponse(response) {
        def jobId=""
        try {
            Pattern regex = Pattern.compile("\"jobId\":\\d+");
            Matcher matcher = regex.matcher(response);
            while (matcher.find()) {
                jobId = matcher.group(0).replace("\"jobId\":","");
            }

        } catch (Exception e) {
            println "No jobId found in server response"
        }
        return jobId
    }

    def downloadFile(serverFileName,localFolderForStorage) {
        println "**Downloading file**"
        def restUrl=interopUrl+"/applicationsnapshots/"+serverFileName+ "/
contents"
        def response

response=openConnection(restUrl,"GET",localFolderForStorage+"/"+serverFileNam
e)
        println "****"
    }

    def exportMetaData(appName,jobName, exportServerFileName) {
        println "**Exporting metadata**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?jobName=" +
jobName + "&jobType=EXPORT_METADATA"
        if (exportServerFileName!="") {
            def exportFileJSON="{exportZipFileName:$exportServerFileName}"
            restUrl=restUrl+"&parameters=" + exportFileJSON
        }

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def executeLCMExport(snapshotName) {
        println "**Exporting snapshot**"
        def typeExport="{type:export}"
        def restUrl=interopUrl+"/applicationsnapshots/"+snapshotName+ "/
migration?q="+typeExport
        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }
```

```
    def executeLCMImport(snapshotName) {
        println "**Importing snapshot**"
        def typeImport="{type:import}"
        def restUrl=interopUrl+"/applicationsnapshots/"+snapshotName+
"/migration?q="+typeImport
        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def runBusinessRule(appName,jobName, JSONRuntimePrompt) {
        println "**Running business rule**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=RULES"
        if (JSONRuntimePrompt!="") {
            // Example for JSONRuntimePrompt {Period:Q1,Entity:USA}
            restUrl=restUrl+"&parameters=" + JSONRuntimePrompt
        }

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def runRuleSet(appName,jobName) {
        println "**Running rule set**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=RULESET"
        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }


    def cubeRefresh(appName,jobName) {
        println "**Refreshing cube**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=CUBE_REFRESH"

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def runPlanTypeMap(appName,jobName, clearData) {
        println "**Running map (job of type plan_type_map)**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?
jobName=" + jobName + "&jobType=PLAN_TYPE_MAP"
        if (clearData!=null && clearData.toUpperCase()=="FALSE") {
            restUrl=restUrl+"&parameters={clearData:false}"
        } else {
            println "Clear data is set to true (default)"
        }
        def response
```

```
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def importData(appName,jobName, importFileName) {
        println "**Importing data**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?jobName=" +
jobName + "&jobType=IMPORT_DATA"
        if (importFileName!="") {
            def exportFileJSON="{importFileName:$importFileName}"
            restUrl=restUrl+"&parameters=" + exportFileJSON
        }

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def importMetaData(appName,jobName, importZipFileName) {
        println "**Importing metadata**"
        def restUrl=planningUrl+"/applications/"+appName+"/jobs?jobName=" +
jobName + "&jobType=IMPORT_METADATA"
        if (importZipFileName!="") {
            def exportFileJSON="{importZipFileName:$importZipFileName}"
            restUrl=restUrl+"&parameters=" + exportFileJSON
        }

        def response
        response=openConnection(restUrl,"POST","")
        println "****"
    }

    def uploadFile(localPath,fileName) {
        println "**Uploading file**"
        def restUrl=interopUrl+"/applicationsnapshots/"+fileName

        final int DEFAULT_CHUNK_SIZE = 50 * 1024 * 1024;
        int packetNo = 1;
        boolean status = true;
        byte[] lastChunk = null;
        File f = new File(localPath+"/"+fileName);
        InputStream fis = null;
        long totalFileSize = f.length();
        boolean isLast = false;
        Boolean isFirst = true;
        boolean firstRetry = true;
        int lastPacketNo = (int) (Math.ceil(totalFileSize/ (double)
DEFAULT_CHUNK_SIZE));
        long totalbytesRead = 0;
        try {
            fis = new BufferedInputStream(new
FileInputStream(localPath+"/"+fileName));
            while (totalbytesRead < totalFileSize && status) {
                int nextChunkSize = (int) Math.min(DEFAULT_CHUNK_SIZE,
totalFileSize - totalbytesRead);
```

```
                if (lastChunk == null) {
                    lastChunk = new byte[nextChunkSize];
                    int bytesRead = fis.read(lastChunk);
                    totalbytesRead += bytesRead;
                    if (packetNo == lastPacketNo) {
                        isLast = true;
                    }
                    status =
sendRequestToRestForUpload(restUrl,isFirst, isLast,lastChunk);
                    isFirst=false;
                    if (status) {
                        println "\r" + ((100 * totalbytesRead)/
totalFileSize) + "% completed";
                    } else {
                break;
                }
                    packetNo = packetNo + 1;
                    lastChunk = null;
            }
            }
        } catch (Exception e) {
            println "Exception occurred while uploading file";
            println e.getMessage()
        } finally {
            if (null != fis) {
            }
        }
        println "****"
    }

    def sendRequestToRestForUpload(restUrl,isFirst, isLast,lastChunk) {

        def url=restUrl+"/contents?
q={isLast:$isLast,chunkSize:"+lastChunk.length+",isFirst:$isLast}"
        println "Opening connection for upload to $url"
        int statusCode

        setProxyParams()
        setSSLParams()

        URL newUrl
        newUrl=new URL(url)

        connection = (HttpURLConnection) newUrl.openConnection()

        connection.setDoOutput(true)
        connection.setDoInput(true)
        connection.setUseCaches(false)
        connection.setRequestMethod("POST")

        connection.setRequestProperty("Content-Type","application/
octet-stream")

        String userCredentials = domain +"."+user + ":" + pwd
        String basicAuth = "Basic " +
```

```
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getBytes()
)
        connection.setRequestProperty("Authorization", basicAuth)
        DataOutputStream wr = new
DataOutputStream(connection.getOutputStream());
        wr.write(lastChunk);
        wr.flush();

        boolean status = false
        int execStatus
        try {
            execStatus = connection.getResponseCode();
            InputStream is = connection.getInputStream();
            BufferedReader br = new BufferedReader(new
InputStreamReader(is));
            StringBuilder sb = new StringBuilder();
            String line;
            while ((line = br.readLine()) != null) {
                sb.append(line+"\n");
            }
            br.close();
            String stat = sb.toString();
            if (null == stat || stat.isEmpty()) {
                return status;
            } else {
                if (200 == execStatus) {
                    println stat
                }
            }

        } catch (Exception e) {
            println "Exception occurred while uploading file";
            println e.getMessage()
        } finally {
            if (connection != null) {
                connection.disconnect();
            }
        }
    }

    // Helper functions

     def unZip(fileName, destinationFolder) {
        // code from http://www.oracle.com/technetwork/articles/java/
compress-1565076.html
         println ("**Unzipping "+fileName+"**")
         def fileList=[]
        int BUFFER = 2048;
        try {
            BufferedOutputStream dest = null;
            BufferedInputStream is = null;
            ZipEntry entry;
            ZipFile zipfile = new ZipFile(fileName);
            Enumeration e = zipfile.entries();
            while(e.hasMoreElements()) {
```

```
                entry = (ZipEntry) e.nextElement();
                //println("Extracting: " +entry);
                is = new
BufferedInputStream(zipfile.getInputStream(entry));
                int count;
                byte[] data;
                data = new byte[BUFFER];
                FileOutputStream fos = new
FileOutputStream(destinationFolder+"/"+entry.getName());
                fileList.push(entry.getName())
                dest = new BufferedOutputStream(fos, BUFFER);
                while ((count = is.read(data, 0, BUFFER)) != -1) {
                   dest.write(data, 0, count);
                }
                dest.flush();
                dest.close();
                is.close();
             }
          } catch (FileNotFoundException fnfe) {
              println "Make sure there is not folder in the zip . Zip
not processed"
              //fnfe.printStackTrace();
          } catch(Exception e) {
              println "An error occurred while unzipping."
              println e.getMessage()

          }
          return fileList
          println "****"
    }

     def findNbOfColsInCSV(filePath, fileName, delimiter) {
        File csvFile=new File (filePath+"/"+fileName);
        Scanner scanner = new Scanner(csvFile);
        scanner.useDelimiter(delimiter);


        def nbCols
        nbCols=0
        if (scanner.hasNextLine()) {
            String[] vals = scanner.nextLine().split(delimiter);
            nbCols=vals.size()
        }
        scanner.close();

        return nbCols
        }


     def getHeadersInCSVAsList(filePath, fileName, delimiter) {
         String[] headers =[]

          BufferedReader br = new BufferedReader(new
FileReader(filePath+"/"+fileName));
          String firstLine = br .readLine();
```

```
            println "First line is : " + firstLine
            println "Removing all non ascii chars from line"
            firstLine = firstLine.replaceAll("[^ -~]", "");
            firstLine = firstLine.replaceAll(" ", "");
           // firstLine = firstLine.replaceAll("\"", "");
            headers = firstLine.split(delimiter);

            def headersList = headers as List
            headersList = headersList.collect { it.trim() }

            return headersList
            }

}

class WaitForCode {

static retry( sleepTime, nbOfRetries, Closure logicToRun){
  Throwable catched = null
  for(int i=0; i<nbOfRetries; i++){
      try {
          return logicToRun.call()
      } catch(Throwable t){
          catched = t
          println ("Retrying...")
          Thread.sleep(sleepTime)
      }
  }
  println ("Retry count limit exceeded. Stopping check.")
  throw catched
}
}
```

Groovy Sample – BicsRestClient.groovy

```
package com.oracle.ceal

import java.net.HttpURLConnection;
import javax.net.ssl.HostnameVerifier
import javax.net.ssl.HttpsURLConnection
import javax.net.ssl.SSLContext
import javax.net.ssl.SSLSession
import javax.net.ssl.TrustManager
import javax.net.ssl.X509TrustManager

class BicsRestClient {
    private HttpURLConnection connection
    private bicsUrl
    private def proxyHost
    private def proxyPort
    private def user
    private def pwd
    private def domain
    private def ignoreSSLCertsErrors
```

```
    public BicsRestClient(bicsServerUrl,httpProxyHost, httpProxyPort,
identityDomain,username, password, ignoreSSLCertificationPathErrors) {
        bicsUrl=bicsServerUrl
        proxyHost=httpProxyHost
        proxyPort=httpProxyPort
        domain=identityDomain
        user=username
        pwd=password
        ignoreSSLCertsErrors=ignoreSSLCertificationPathErrors

    }

    def setProxyParams() {
        Properties systemProperties = System.getProperties()
        systemProperties.setProperty("http.proxyHost",proxyHost)
        systemProperties.setProperty("http.proxyPort",proxyPort)
        systemProperties.setProperty("https.proxyHost",proxyHost)
        systemProperties.setProperty("https.proxyPort",proxyPort)

    }

    def setSSLParams() {
        if (ignoreSSLCertsErrors !=null &&
ignoreSSLCertsErrors.toUpperCase()=="TRUE") {
            println "Ignoring SSL certification path errors"
            // Disable SSL cert validation

            def hostnameVerifier = [
                verify: { hostname, session -> true }
            ]
            def trustManager = [
                    checkServerTrusted: { chain, authType -> },
                    checkClientTrusted: { chain, authType -> },
                    getAcceptedIssuers: { null }
            ]



HttpsURLConnection.setDefaultHostnameVerifier(hostnameVerifier as
HostnameVerifier)

HttpsURLConnection.setDefaultSSLSocketFactory(context.getSocketFactory(
))

            SSLContext context = SSLContext.getInstance("SSL")
            context.init(null, [trustManager as X509TrustManager] as
TrustManager[], null)

        }
    }

    def openConnection(restUrl,method,contentType, body) {
        println "Opening connection to bics $restUrl with
```

```
method:$method"


        int statusCode

        setProxyParams()
        setSSLParams()

        URL newUrl
        newUrl=new URL(restUrl)

        connection = (HttpURLConnection) newUrl.openConnection()

        connection.setDoOutput(true)
        connection.setDoInput(true)
        connection.setUseCaches(false)
        if (method=="")
            connection.setRequestMethod("GET")
        else
            connection.setRequestMethod(method)

        //adding X-ID-TENANT-NAME <identity_domain>
        //connection.setRequestProperty("X-ID-TENANT-NAME",domain)

        if (contentType.toUpperCase()=="FORM") {
            connection.setRequestProperty("Content-Type","application/x-www-
form-urlencoded")
        }
        if (contentType.toUpperCase()=="JSON") {
            connection.setRequestProperty("Content-Type","application/json")
        }
        if (contentType.toUpperCase()=="") {
            // add no content type
        }

        String userCredentials = domain +"."+user + ":" + pwd
        String basicAuth = "Basic " +
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getBytes()
)
        connection.setRequestProperty("Authorization", basicAuth)

        if (body!=null && body!="") {
            DataOutputStream wr = new DataOutputStream
(connection.getOutputStream ());
            wr.writeBytes (body);
            wr.flush ();
            wr.close ();
        }


        String response=""
        try {
            statusCode = connection.responseCode
            println "Connection status code: $statusCode "
            if (statusCode==401 || statusCode==403) {
```

```
                println "Not authorized"
            }
            if (statusCode==200) {
                println "Authentication succeeded"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection)
                println "-----"
            }
            if (statusCode==400 || statusCode==500) {
                println "Bad request"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection)
                println "-----"
            }
        } catch (Exception e) {
            println "Error connecting to the URL"
            println e.getMessage()
        } finally {
            if (connection != null) {
                connection.disconnect();
            }
        }

        return response
    }

    def displayServerResponse(connection) {
        InputStream is;
        if (connection.getResponseCode()==200) {
            is=connection.getInputStream();
        } else {
            is=connection.getErrorStream();
        }
        println "Response Content-Type:"+connection.getContentType()
        BufferedReader br = new BufferedReader(new
InputStreamReader(is));
        StringBuilder sb = new StringBuilder();
        String line;
        while ((line = br.readLine()) != null) {
            sb.append(line+"\n");
        }
        br.close();
        println sb
        return sb.toString()

    }

    def aboutBics() {
        println "**About bics**"
        def restUrl=bicsUrl+"/dataload/v1/about"

        def response
        response=openConnection(restUrl,"GET","FORM","")
```

```
        println "****"
    }

    def listAllTables() {
        //<URL>/dataload/v1/tables

        println "**List tables**"
        def restUrl=bicsUrl+"/dataload/v1/tables"

        def response
        response=openConnection(restUrl,"GET","FORM","")
        println "****"
    }

    def getTableInfo(tableName) {
        println "**Get table info**"
        def restUrl=bicsUrl+"/dataload/v1/tables?
name="+tableName.toUpperCase()

        def response
        response=openConnection(restUrl,"GET","","")
        println "****"

    }

    def createTableToLoadCSV(tableName, numberOfVarCharCols, columnPrefix ) {
        println "**Create table**"
        // create json manually for X columns

        /*
         {
        "columnName":"COL_1",
        "dataType":"VARCHAR",
        "length":300,
        "precision":0,
        "nullable":true,
        "defaultValue":null,
        },

         * */

        def restUrl=bicsUrl+"/dataload/v1/tables/"+tableName.toUpperCase()

        def JSONColumns

        JSONColumns="["
        def i
        for (i = 1; i <=numberOfVarCharCols; i++) {
            if (i==numberOfVarCharCols) {

JSONColumns=JSONColumns+"{\"columnName\":\""+columnPrefix.toUpperCase()
+""+i+"\",\"dataType\":\"VARCHAR\",\"length\":300,\"precision\":0,\"nullable\
":true,\"defaultValue\":null}"
            } else {
```

```
JSONColumns=JSONColumns+"{\"columnName\":\""+columnPrefix.toUpperCase()
+""+i+"\",\"dataType\":\"VARCHAR\",\"length\":300,\"precision\":0,\"nul
lable\":true,\"defaultValue\":null},"
            }
         }
        JSONColumns=JSONColumns+"]"

        println "JSON columns:"+JSONColumns
        def response
        response=openConnection(restUrl,"PUT","JSON",JSONColumns)
        println "****"
    }

    def createTableToLoadCSVWithHeaderNames(tableName, listHeaders ) {
        println "**Create table**"
        // create json manually for X columns with headers in list

        /*
         {
        "columnName":"COL_1",
        "dataType":"VARCHAR",
        "length":300,
        "precision":0,
        "nullable":true,
        "defaultValue":null,
        },

         * */

        def restUrl=bicsUrl+"/dataload/v1/
tables/"+tableName.toUpperCase()

        def JSONColumns

        JSONColumns="["

        listHeaders.each { headerName ->
            if(headerName == listHeaders.last()) {

JSONColumns=JSONColumns+"{\"columnName\":\""+headerName.toUpperCase()
+"\",\"dataType\":\"VARCHAR\",\"length\":300,\"precision\":0,\"nullable
\":true,\"defaultValue\":null}"
            } else {

JSONColumns=JSONColumns+"{\"columnName\":\""+headerName.toUpperCase()
+"\",\"dataType\":\"VARCHAR\",\"length\":300,\"precision\":0,\"nullable
\":true,\"defaultValue\":null},"
            }
        }

        JSONColumns=JSONColumns+"]"

        println "JSON columns:"+JSONColumns
        def response
        response=openConnection(restUrl,"PUT","JSON",JSONColumns)
```

```
        println "****"

    }

    def loadDataInTableUsingCSV(tableName, localCsvFilePath,
localCsvFileName,
delimiterInCsv,numberOfColumnsInCsv,numberOfLinesToSkip,columnPrefixInTable,i
sZipped) {
        println "**Load csv file in table**"
        println "Processing:"+localCsvFilePath+"/"+localCsvFileName

        if (isZipped==true) println "Upload of zip not supported at this
time. Ignoring isZipped parameter"

        File localCsv=new File(localCsvFilePath+"/"+localCsvFileName)
        if(!localCsv.exists() || localCsv.isDirectory()) {
            println "File does not exist"
            println "****"
            return
        }

        def restUrl=bicsUrl+"/dataload/v1/tables/"+tableName.toUpperCase()+"/
data"

        setProxyParams()
        setSSLParams()

        URL newUrl
        newUrl=new URL(restUrl)

        connection = (HttpURLConnection) newUrl.openConnection()

        connection.setDoOutput(true)
        connection.setDoInput(true)
        connection.setUseCaches(false)
        connection.setRequestMethod("PUT")
        //connection.setRequestProperty("X-ID-TENANT-NAME",domain)
        String userCredentials = domain +"."+user + ":" + pwd
        String basicAuth = "Basic " +
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getBytes()
)
        connection.setRequestProperty("Authorization", basicAuth)

        /*
         * The first part is a JSON descriptor (Content-Type: application/
json)
         * of the data load. The second part is an input stream
         *  (Content-Type: application/octet-stream).
         *  Data in the stream can be text data read
         *  from comma-separated values (CSV)
         * */

        def boundary =  System.currentTimeMillis() ;
        connection.setRequestProperty("Content-Type","multipart/mixed;
boundary=" + boundary);
```

```
        OutputStream outputStream = connection.getOutputStream();
        PrintWriter writer = new PrintWriter(new
OutputStreamWriter(outputStream, "UTF-8"),true);

        // JSON
        /*
         * {
        "columnMaps":[
                {
                    "column":{
                        "name":"NAME",
                        "optionalJavaSqlType":null,
                        "partOfUniqueKey":true,
                    },
                    "position":1,
                },
                {...
                }
        ],
        "optionalMaximumErrors":null,
        "removeDuplicates":true
        "optionalWriteMode":"Insert all",
        "delimiter":","
        "timestampFormat":"yyyy-MM-dd",
        "numberOfLinesToSkip":0
        },
         *
         *
         */
        def i
        def JSONDataLoad
        JSONDataLoad="{\"columnMaps\":["
        for (i =1; i <=numberOfColumnsInCsv; i++) {
            if (i==numberOfColumnsInCsv) {
                JSONDataLoad=JSONDataLoad+"{\"column\":
{\"name\":\""+columnPrefixInTable.toUpperCase()
+""+i+"\","+"\"optionalJavaSqlType\":null,\"partOfUniqueKey\":false},"+
"\"position\":"+i+"}"
            } else {
                JSONDataLoad=JSONDataLoad+"{\"column\":
{\"name\":\""+columnPrefixInTable.toUpperCase()
+""+i+"\","+"\"optionalJavaSqlType\":null,\"partOfUniqueKey\":false},"+
"\"position\":"+i+"},"
            }
         }
        JSONDataLoad=JSONDataLoad+'''],
        "optionalMaximumErrors":null,
        "removeDuplicates":false,
        "optionalWriteMode":"Insert all",
        "delimiter":"'''+delimiterInCsv+"\","+'''
        "timestampFormat":"",
        "numberOfLinesToSkip":''' + numberOfLinesToSkip +'''}
        '''

        writer.append("--" + boundary).append("\r\n");
```

```
        writer.append("Content-Type: application/json").append("\r\n");
        writer.append("\r\n");
        writer.flush();
        writer.append(JSONDataLoad)
        writer.append("\r\n");
        writer.flush();
        writer.append("\r\n").flush();
        //writer.append("--" + boundary ).append("\r\n");

        // CSV or ZIP file content
        writer.append("--" + boundary).append("\r\n");
        writer.append("Content-Type: application/octet-
stream").append("\r\n");
        writer.append("\r\n");
        writer.flush();

        FileInputStream inputStream = new FileInputStream(new
File(localCsvFilePath+"/"+localCsvFileName));
        byte[] buffer = new byte[4096];
        int bytesRead = -1;
        while ((bytesRead = inputStream.read(buffer)) != -1) {
            outputStream.write(buffer, 0, bytesRead);
        }
        outputStream.flush();
        inputStream.close();

        writer.append("\r\n");
        writer.flush();

        writer.append("\r\n").flush();
        writer.append("--" + boundary + "--").append("\r\n");
        writer.close();

        String response=""
        def statusCode
        try {
            statusCode = connection.responseCode
            println "Connection status code: $statusCode "
            if (statusCode==401 || statusCode==403) {
                println "Not authorized"
            }
            if (statusCode==200) {
                println "Authentication succeeded"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection)
                println "-----"
            }
            if (statusCode==400 || statusCode==500) {
                println "Bad request"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection)
                println "-----"
            }
```

```
        } catch (Exception e) {
            println "Error connecting to the URL"
            println e.getMessage()
        } finally {
            if (connection != null) {
                connection.disconnect();
            }
        }

        println "****"
    }

    def loadDataInTableUsingCSVAndHeader(tableName, localCsvFilePath,
localCsvFileName,
delimiterInCsv,numberOfLinesToSkip,listHeaders,isZipped) {
        println "**Load csv file in table using headers**"
        println "Processing:"+localCsvFilePath+"/"+localCsvFileName

        if (isZipped==true) println "Upload of zip not supported at
this time. Ignoring isZipped parameter"

        File localCsv=new File(localCsvFilePath+"/"+localCsvFileName)
        if(!localCsv.exists() || localCsv.isDirectory()) {
            println "File does not exist"
            println "****"
            return
        }

        def restUrl=bicsUrl+"/dataload/v1/
tables/"+tableName.toUpperCase()+"/data"

        setProxyParams()
        setSSLParams()

        URL newUrl
        newUrl=new URL(restUrl)

        connection = (HttpURLConnection) newUrl.openConnection()

        connection.setDoOutput(true)
        connection.setDoInput(true)
        connection.setUseCaches(false)
        connection.setRequestMethod("PUT")
        //connection.setRequestProperty("X-ID-TENANT-NAME",domain)
        String userCredentials = domain +"."+user + ":" + pwd
        String basicAuth = "Basic " +
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getB
ytes())
        connection.setRequestProperty("Authorization", basicAuth)

        /*
         * The first part is a JSON descriptor (Content-Type:
application/json)
         * of the data load. The second part is an input stream
         *  (Content-Type: application/octet-stream).
```

```
         *  Data in the stream can be text data read
         *  from comma-separated values (CSV)
         * */


        def boundary =  System.currentTimeMillis() ;
        connection.setRequestProperty("Content-Type","multipart/mixed;
boundary=" + boundary);
        OutputStream outputStream = connection.getOutputStream();
        PrintWriter writer = new PrintWriter(new
OutputStreamWriter(outputStream, "UTF-8"),true);

        // JSON
        /*
         * {
        "columnMaps":[
                {
                    "column":{
                        "name":"NAME",
                        "optionalJavaSqlType":null,
                        "partOfUniqueKey":true,
                    },
                    "position":1,
                },
                {...
                }
        ],
        "optionalMaximumErrors":null,
        "removeDuplicates":true
        "optionalWriteMode":"Insert all",
        "delimiter":","
        "timestampFormat":"yyyy-MM-dd",
        "numberOfLinesToSkip":0
        },
         *
         *
         */

        int i
        i=1
        def JSONDataLoad
        JSONDataLoad="{\"columnMaps\":["

        listHeaders.each { headerName ->
            if(headerName == listHeaders.last()) {
                    JSONDataLoad=JSONDataLoad+"{\"column\":
{\"name\":\""+headerName.toUpperCase()
+"\","+"\"optionalJavaSqlType\":null,\"partOfUniqueKey\":false},"+"\"position
\":"+i+"}"
            } else {
                    JSONDataLoad=JSONDataLoad+"{\"column\":
{\"name\":\""+headerName.toUpperCase()
+"\","+"\"optionalJavaSqlType\":null,\"partOfUniqueKey\":false},"+"\"position
\":"+i+"},"
            }
```

```
            i=i+1
        }


        JSONDataLoad=JSONDataLoad+'''],
        "optionalMaximumErrors":null,
        "removeDuplicates":false,
        "optionalWriteMode":"Insert all",
        "delimiter":"'''+delimiterInCsv+"\","+'''
        "timestampFormat":"",
        "numberOfLinesToSkip":''' + numberOfLinesToSkip +'''}
        '''

        writer.append("--" + boundary).append("\r\n");
        writer.append("Content-Type: application/json").append("\r\n");
        writer.append("\r\n");
        writer.flush();
        writer.append(JSONDataLoad)
        writer.append("\r\n");
        writer.flush();
        writer.append("\r\n").flush();
        //writer.append("--" + boundary ).append("\r\n");

        // CSV or ZIP file content
        writer.append("--" + boundary).append("\r\n");
        writer.append("Content-Type: application/octet-
stream").append("\r\n");
        writer.append("\r\n");
        writer.flush();

        FileInputStream inputStream = new FileInputStream(new
File(localCsvFilePath+"/"+localCsvFileName));
        byte[] buffer = new byte[4096];
        int bytesRead = -1;
        while ((bytesRead = inputStream.read(buffer)) != -1) {
            outputStream.write(buffer, 0, bytesRead);
        }
        outputStream.flush();
        inputStream.close();

        writer.append("\r\n");
        writer.flush();

        writer.append("\r\n").flush();
        writer.append("--" + boundary + "--").append("\r\n");
        writer.close();

        String response=""
        def statusCode
        try {
            statusCode = connection.responseCode
            println "Connection status code: $statusCode "
            if (statusCode==401 || statusCode==403) {
                println "Not authorized"
            }
```

```
            if (statusCode==200) {
                println "Authentication succeeded"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection)
                println "-----"
            }
            if (statusCode==400 || statusCode==500) {
                println "Bad request"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection)
                println "-----"
            }
        } catch (Exception e) {
            println "Error connecting to the URL"
            println e.getMessage()
        } finally {
            if (connection != null) {
                connection.disconnect();
            }
        }

        println "****"
    }

    def deleteTable(tableName) {
        println "**Delete table**"
        def restUrl=bicsUrl+"/dataload/v1/tables/"+tableName.toUpperCase()

        def response
        response=openConnection(restUrl,"DELETE","","")
        println "****"
    }

    def deleteDataFromTable(tableName) {
        println "**Delete all data from table**"
        def restUrl=bicsUrl+"/dataload/v1/tables/"+tableName.toUpperCase()+"/
data"

        def response
        response=openConnection(restUrl,"DELETE","","")
        println "****"
    }

    def truncateList(listName, truncateLength) {
        println "**Truncating list**"
        def trimmedList
        listName=listName*.trim()
        trimmedList=listName*.take(truncateLength)

        println ("New list:"+trimmedList)
        println "****"
        return trimmedList
```

```
    }
}
```

Groovy Sample – ApexRestClient.groovy

```
package com.oracle.ceal

import java.net.HttpURLConnection;
import javax.net.ssl.HostnameVerifier
import javax.net.ssl.HttpsURLConnection
import javax.net.ssl.SSLContext
import javax.net.ssl.SSLSession
import javax.net.ssl.TrustManager
import javax.net.ssl.X509TrustManager

class ApexRestClient {

    private HttpURLConnection connection
    private apexUrl
    private def proxyHost
    private def proxyPort
    private def user
    private def pwd
    private def domain
    private def ignoreSSLCertsErrors

    public ApexRestClient(apexServerUrl,httpProxyHost, httpProxyPort,
identityDomain,username, password, ignoreSSLCertificationPathErrors) {
        apexUrl=apexServerUrl
        proxyHost=httpProxyHost
        proxyPort=httpProxyPort
        domain=identityDomain
        user=username
        pwd=password
        ignoreSSLCertsErrors=ignoreSSLCertificationPathErrors

    }

    def setProxyParams() {
        Properties systemProperties = System.getProperties()
        systemProperties.setProperty("http.proxyHost",proxyHost)
        systemProperties.setProperty("http.proxyPort",proxyPort)
        systemProperties.setProperty("https.proxyHost",proxyHost)
        systemProperties.setProperty("https.proxyPort",proxyPort)

    }

    def setSSLParams() {
        if (ignoreSSLCertsErrors !=null &&
ignoreSSLCertsErrors.toUpperCase()=="TRUE") {
            println "Ignoring SSL certification path errors"
            // Disable SSL cert validation

            def hostnameVerifier = [
```

```
                verify: { hostname, session -> true }
            ]
            def trustManager = [
                    checkServerTrusted: { chain, authType -> },
                    checkClientTrusted: { chain, authType -> },
                    getAcceptedIssuers: { null }
            ]



            HttpsURLConnection.setDefaultHostnameVerifier(hostnameVerifier
as HostnameVerifier)

HttpsURLConnection.setDefaultSSLSocketFactory(context.getSocketFactory())

            SSLContext context = SSLContext.getInstance("SSL")
            context.init(null, [trustManager as X509TrustManager] as
TrustManager[], null)

        }
    }

    def openConnection(restUrl,method,contentType, body) {
        println "Opening connection to apex $restUrl with method:$method"


        int statusCode

        setProxyParams()
        setSSLParams()

        URL newUrl
        newUrl=new URL(restUrl)

        connection = (HttpURLConnection) newUrl.openConnection()

        connection.setDoOutput(true)
        connection.setDoInput(true)
        connection.setUseCaches(false)
        if (method=="")
            connection.setRequestMethod("GET")
        else
            connection.setRequestMethod(method)


        if (contentType.toUpperCase()=="FORM") {
            connection.setRequestProperty("Content-Type","application/x-www-
form-urlencoded")
        }
        if (contentType.toUpperCase()=="JSON") {
            connection.setRequestProperty("Content-Type","application/json")
        }
        if (contentType.toUpperCase()=="") {
            // add no content type
        }
```

```
        String userCredentials = domain +"."+user + ":" + pwd
        String basicAuth = "Basic " +
javax.xml.bind.DatatypeConverter.printBase64Binary(userCredentials.getB
ytes())
        connection.setRequestProperty("Authorization", basicAuth)

        if (body!=null && body!="") {
            DataOutputStream wr = new DataOutputStream
(connection.getOutputStream ());
            wr.writeBytes (body);
            wr.flush ();
            wr.close ();
        }


        String response=""
        try {
            statusCode = connection.responseCode
            println "Connection status code: $statusCode "
            if (statusCode==401 || statusCode==403) {
                println "Not authorized"
            }
            if (statusCode==200) {
                println "Authentication succeeded"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection)
                println "-----"
            }
            if (statusCode==400 || statusCode==500) {
                println "Bad request"
                println "Server response:"
                println "-----"
                response=displayServerResponse(connection)
                println "-----"
            }
        } catch (Exception e) {
            println "Error connecting to the URL"
            println e.getMessage()
        } finally {
            if (connection != null) {
                connection.disconnect();
            }
        }

        return response
    }

    def displayServerResponse(connection) {
        InputStream is;
        if (connection.getResponseCode()==200) {
            is=connection.getInputStream();
        } else {
            is=connection.getErrorStream();
```

```
        }
        println "Response Content-Type:"+connection.getContentType()
        BufferedReader br = new BufferedReader(new InputStreamReader(is));
        StringBuilder sb = new StringBuilder();
        String line;
        while ((line = br.readLine()) != null) {
            sb.append(line+"\n");
        }
        br.close();
        println sb
        return sb.toString()

    }
    def launchProcUsingGET(apexUri) {
        println "**Launching PL/SQL in apex**"

        def restUrl=apexUrl+"/"+apexUri

        /*
         * Procedure in apex is defined this way
         *  RESTful Service Module: bics/
            URI Template: plsql/
            Method: GET
            Source Type: PL/SQL
            Requires Secure Access: YES
            Source:

                DECLARE
                    prevdeptno   number;
                    deptloc      varchar2(30);
                    deptname     varchar2(30);
                    CURSOR getemps IS select * from emp
                                          where ((select job from emp where
ename = :empname)  IN ('PRESIDENT', 'MANAGER'))
                                          or deptno = (select deptno from emp
where ename = :empname)
                                           order by deptno, ename;
                BEGIN
                    sys.htp.htmlopen;
                    sys.htp.headopen;
                    sys.htp.title('Departments');
                    sys.htp.headclose;
                    sys.htp.bodyopen;

                    for emprecs in getemps
                    loop
                        if emprecs.deptno != prevdeptno or prevdeptno is
null then
                            select dname, loc into deptname, deptloc
                          from dept where deptno = (select deptno from emp
where ename = emprecs.ename);
                        if prevdeptno is not null then
                            sys.htp.print('</ul>');
                        end if;
                        sys.htp.print('Department ' || deptname || '
```

```
located in ' || deptloc || '<p/>');
                            sys.htp.print('<ul>');
            end if;
            sys.htp.print('<li>');

            prevdeptno := emprecs.deptno;
            end loop;
            sys.htp.print('</ul>');
            sys.htp.bodyclose;
            sys.htp.htmlclose;
        END;

            URL call will be in the form: https://
<SERVER>.oraclecloudapps.com/apex/bics/plsql/
            Response will be in following format for this specific
plsql example
            Response Content-Type:text/html; charset=UTF-8
            <HTML>
            <HEAD>
            <TITLE>Departments</TITLE>
            </HEAD>
            <BODY>
            </ul>
            </BODY>
            </HTML>

        */
        def response
        response=openConnection(restUrl,"GET","FORM","")
        println "****"

        println "****"
    }
    def launchSQLQueryUsingGETAndVariableOnUrl(apexUri, parameter) {
        println "**Launching Sql query in apex**"

        /*
         * Procedure in apex is defined this way
         *  RESTful Service Module: bics/
            URI Template: test/{ID}
            Method: GET
            Source Type: Query
            Format: JSON
            Requires Secure Access: YES
            Source: select
EMPNO,ENAME,JOB,MGR,HIREDATE,SAL,COMM,DEPTNO
                        from EMP where EMPNO = :ID

            URL call will be in the form: https://
<SERVER>.oraclecloudapps.com/apex/bics/test/7839
            Response will be in following format:
            Response Content-Type:application/json
                {"next":{"$ref":"https://<SERVER>.oraclecloudapps.com/
apex/bics/test/7839?page=1"},"items":
[{"empno":7839,"ename":"KING","job":"PRESIDENT","hiredate":"1981-11-17T
```

```
00:00:00Z","sal":5000,"deptno":10}]}

         *
         */

        def restUrl=apexUrl+"/"+apexUri+"/"+parameter

        def response
        response=openConnection(restUrl,"GET","FORM","")
        println "****"
    }
}
```

Groovy Sample — APEXAutomationParameters.groovy

```
package com.oracle.ceal

import java.io.File;
import java.util.Properties;

class APEXAutomationParameters {
    private Properties props = new Properties()

    def apexRestUrl
    def APEX_REST_URL='apexRestUrl'
    def identityDomain
    def APEX_IDENTITY_DOMAIN='apexIdentityDomain'
    def username
    def APEX_USERNAME='apexUsername'
    def password
    def APEX_PASSWORD='apexPassword'
    def proxyHost
    def PROXY_HOST='proxyHost'
    def proxyPort
    def PROXY_PORT='proxyPort'
    def ignoreSSLCertificationPathErrors
    def IGNORE_CERT_PATH_ERRORS='ignoreSSLCertificationPathErrors'

    public APEXAutomationParameters(propertiesFile) {
        def propsFileName=propertiesFile
        File propsFile = new File(propsFileName)
        try {
            props.load(propsFile.newDataInputStream())
        } catch ( FileNotFoundException fnfe) {
            println "$propsFileName APEX properties file not found in the
current directory. Exiting."
            System.exit(1);
        }
        apexRestUrl=props.getProperty(APEX_REST_URL)
        identityDomain=props.getProperty(APEX_IDENTITY_DOMAIN)
        username=props.getProperty(APEX_USERNAME)
        password=props.getProperty(APEX_PASSWORD)
        proxyHost=props.getProperty(PROXY_HOST)
        proxyPort=props.getProperty(PROXY_PORT)
```

```
ignoreSSLCertificationPathErrors=props.getProperty(IGNORE_CERT_PATH_ERR
ORS)

    }

    def isConfigValid() {
        try {
            // Required parameters check
            assert apexRestUrl != '' : "$APEX_REST_URL is empty"
            assert identityDomain != '' : "$APEX_IDENTITY_DOMAIN is
empty"
            assert username != '' : "$APEX_USERNAME is empty"
            assert password != '' : "$APEX_PASSWORD is empty"

            // validate url is correct
            URL apexUrl=new URL(apexRestUrl)
            // connection test


            // ssl check

            println "$APEX_REST_URL = $apexRestUrl"
            println "$APEX_IDENTITY_DOMAIN = $identityDomain"
            println "$APEX_USERNAME = $username"
            println "$APEX_PASSWORD = ******"

        } catch(AssertionError e) {
            println e.getMessage()
            return false
        } catch (MalformedURLException e) {
            println "APEX Rest url is incorrect. Current
value:$apexRestUrl , expected format http|https://"
            println e.getMessage()
            return false
        }
        return true
    }

}
```

Groovy Sample — BICSAutomationParameters.groovy

```
package com.oracle.ceal

import java.io.File;
import java.util.Properties;

class BICSAutomationParameters {

    private Properties props = new Properties()

    def bicsRestUrl
    def BICS_REST_URL='bicsRestUrl'
```

```
    def identityDomain
    def BICS_IDENTITY_DOMAIN='bicsIdentityDomain'
    def username
    def BICS_USERNAME='bicsUsername'
    def password
    def BICS_PASSWORD='bicsPassword'
    def proxyHost
    def PROXY_HOST='proxyHost'
    def proxyPort
    def PROXY_PORT='proxyPort'
    def ignoreSSLCertificationPathErrors
    def IGNORE_CERT_PATH_ERRORS='ignoreSSLCertificationPathErrors'

    public BICSAutomationParameters(propertiesFile) {
        def propsFileName=propertiesFile
        File propsFile = new File(propsFileName)
        try {
            props.load(propsFile.newDataInputStream())
        } catch ( FileNotFoundException fnfe) {
            println "$propsFileName BICS properties file not found in the
current directory. Exiting."
            System.exit(1);
        }
        bicsRestUrl=props.getProperty(BICS_REST_URL)
        identityDomain=props.getProperty(BICS_IDENTITY_DOMAIN)
        username=props.getProperty(BICS_USERNAME)
        password=props.getProperty(BICS_PASSWORD)
        proxyHost=props.getProperty(PROXY_HOST)
        proxyPort=props.getProperty(PROXY_PORT)

ignoreSSLCertificationPathErrors=props.getProperty(IGNORE_CERT_PATH_ERRORS)

    }

    def isConfigValid() {
        try {
            // Required parameters check
            assert bicsRestUrl != '' : "$BICS_REST_URL is empty"
            assert identityDomain != '' : "$BICS_IDENTITY_DOMAIN is empty"
            assert username != '' : "$BICS_USERNAME is empty"
            assert password != '' : "$BICS_PASSWORD is empty"

            // validate url is correct
            URL bicsUrl=new URL(bicsRestUrl)
            // connection test


            // ssl check

            println "$BICS_REST_URL = $bicsRestUrl"
            println "$BICS_IDENTITY_DOMAIN = $identityDomain"
            println "$BICS_USERNAME = $username"
            println "$BICS_PASSWORD = ******"

        } catch(AssertionError e) {
```

```
            println e.getMessage()
            return false
        } catch (MalformedURLException e) {
            println "BICS Rest url is incorrect. Current
value:$bicsRestUrl , expected format http|https://"
            println e.getMessage()
            return false
        }
        return true
    }


}
```

Groovy Sample — PBCSAutomationParameters.groovy

```
package com.oracle.ceal

class PBCSAutomationParameters {
    private Properties props = new Properties()

    def planningRestUrl
    def PBCS_PLANNING_REST_URL='pbcsPlanningRestUrl'
    def interopRestUrl
    def PBCS_INTEROP_REST_URL='pbcsInteropRestUrl'
    def identityDomain
    def PBCS_IDENTITY_DOMAIN='pbcsIdentityDomain'
    def username
    def PBCS_USERNAME='pbcsUsername'
    def password
    def PBCS_PASSWORD='pbcsPassword'
    def proxyHost
    def PROXY_HOST='proxyHost'
    def proxyPort
    def PROXY_PORT='proxyPort'
    def ignoreSSLCertificationPathErrors
    def IGNORE_CERT_PATH_ERRORS='ignoreSSLCertificationPathErrors'


    public PBCSAutomationParameters(propertiesFile) {
        def propsFileName=propertiesFile
        File propsFile = new File(propsFileName)
        try {
            props.load(propsFile.newDataInputStream())
        } catch ( FileNotFoundException fnfe) {
            println "$propsFileName PBCS properties file not found in
the current directory. Exiting."
            System.exit(1);
        }
        planningRestUrl=props.getProperty(PBCS_PLANNING_REST_URL)
        interopRestUrl=props.getProperty(PBCS_INTEROP_REST_URL)
        identityDomain=props.getProperty(PBCS_IDENTITY_DOMAIN)
        username=props.getProperty(PBCS_USERNAME)
        password=props.getProperty(PBCS_PASSWORD)
```

```
        proxyHost=props.getProperty(PROXY_HOST)
        proxyPort=props.getProperty(PROXY_PORT)

ignoreSSLCertificationPathErrors=props.getProperty(IGNORE_CERT_PATH_ERRORS)


    }

    def isConfigValid() {
        try {
            // Required parameters check
            assert planningRestUrl != '' : "$PBCS_PLANNING_REST_URL is empty"
            assert interopRestUrl != '' : "$PBCS_INTEROP_REST_URL is empty"
            assert identityDomain != '' : "$PBCS_IDENTITY_DOMAIN is empty"
            assert username != '' : "$PBCS_USERNAME is empty"
            assert password != '' : "$PBCS_PASSWORD is empty"

            // validate url is correct
            URL planningUrl=new URL(planningRestUrl)
            URL interopUrl=new URL(interopRestUrl)
            // connection test


            // ssl check

            println "$PBCS_PLANNING_REST_URL = $planningRestUrl"
            println "$PBCS_INTEROP_REST_URL = $interopRestUrl"
            println "$PBCS_IDENTITY_DOMAIN = $identityDomain"
            println "$PBCS_USERNAME = $username"
            println "$PBCS_PASSWORD = ******"

        } catch(AssertionError e) {
            println e.getMessage()
            return false
        } catch (MalformedURLException e) {
            println "PBCS Rest urls are incorrect. Current
value:$planningRestUrl and $interopRestUrl, expected format http|https://
<SERVER>/HyperionPlanning/rest/11.1.2.3.xyz http|https://<SERVER>/interop/
rest/11.1.2.3.xyz"
            println e.getMessage()
            return false
        }
        return true
    }


}
```

Troubleshooting the Integration

Use an HTTP proxy such as Fiddler to trace HTTP calls

- In this case, set `proxyHost / proxyPort` to `localhost 8888` in your properties file defining the configuration

- Also set `ignoreSSLCertificationPathErrors=true`